

Bono Homini Donum

Essays in Historical Linguistics,
in Memory of J. Alexander Kerns

EDITED BY

Yoël L. Arbeitman

Allan R. Bomhard

JOHN BENJAMINS PUBLISHING COMPANY

BONO HOMINI DONUM

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E.F.K. KOERNER

Zentrum für Allgemeine Sprachwissenschaft, Typologie
und Universalienforschung, Berlin
efk.koerner@rz.hu-berlin.de

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Volume 16

Yoël L. Arbeitman, Allan R. Bomhard (eds.)

Bono Homini Donum.

Essays in Historical Linguistics, in Memory of J. Alexander Kerns

BONO HOMINI DONUM
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MEMORY OF J. ALEXANDER KERNS

Edited by

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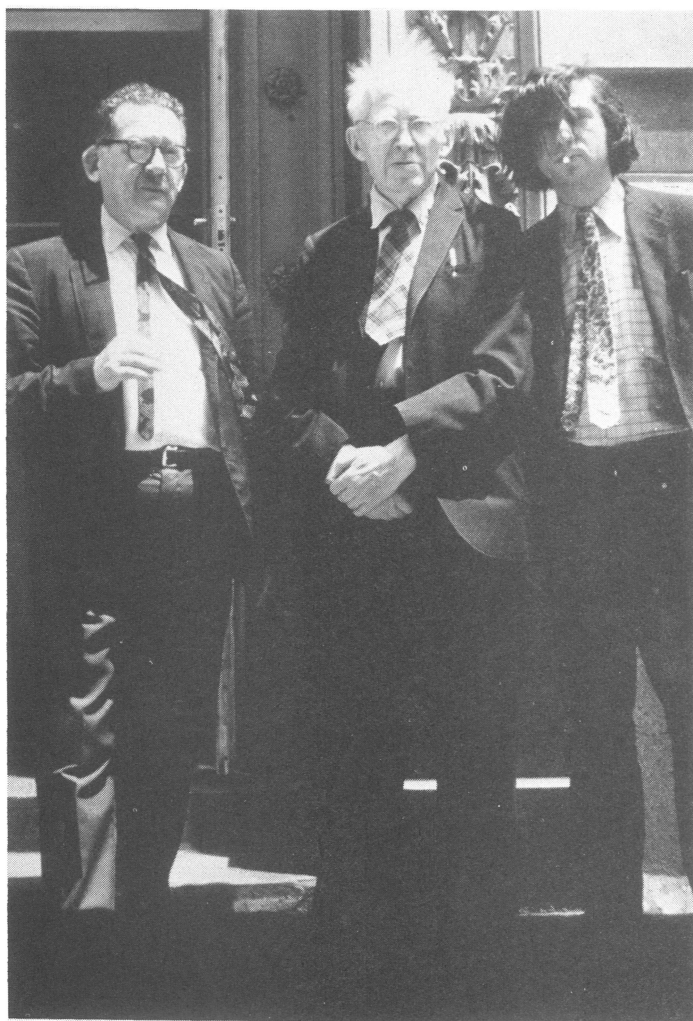
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Benjamin SCHWARTZ

J. Alexander KERNS

Yoël ARBEITMAN

1967

PREFACE

J. Alexander Kerns was a prodigious linguistic scholar, whose interests extended to all of the major language families of the world. The essays gathered together in this book to honor his memory reflect his wide-ranging interests and, therefore, include contributions dealing not only with the Indo-European parent language and its descendants but also with other language families such as Afroasiatic and Altaic.

But Kerns the man was more, much more, than a prodigious linguist -- he was, first and foremost, a kind, generous, and extremely humble human being; he was the quintessential embodiment of all of the qualities that enoble humankind. His influence was great -- not on account of his scholarly publications, which were relatively few in number, but because he so greatly inspired all who came into contact with him.

The idea of preparing this volume -- now a reality after three, long, hard years of labor -- was first conceived by Yoël Arbeitman shortly after Professor Kerns passed away in October, 1975. Except for the Dedication and Yoël Arbeitman's contribution, all of the work required to prepare the camera-ready manuscript was done by Allan R. Bomhard.

The editors would like to thank all those -- too numerous to name -- who helped to make this undertaking a success. Special appreciation must be expressed to the General Editor of the series, E.F.Konrad Koerner, and to the publisher, John Benjamins, Amsterdam, for their patience, enthusiastic support, and many helpful suggestions.

DEDICATION

MEMINI NEQUE OBLIVISCAR: ΑΓΑΘΩΙ ΑΝΘΡΩΠΩΙ ΔΩΡΟΝ

BONUS HOMO. The very appellation causes the man we honor to cringe with embarrassment. But, as he was so wont to do in life, he sublimates his mortification into Indo-European citations: this time it is Luke 18: 19, which Alec quotes in (what else?) Greek & Latin (for self-explanatory reasons), followed, at once, in Gothic & Lithuanian (his *duae primae inter pares*): Τί με λέγεις ἀγαθόν; οὐδεὶς ἀγαθὸς εἰ μὴ εἷς ὁ Θεός.

Quid me dicis bonum? nemo bonus nisi solus Deus.

hva mik qipis þiuþeigana? ni ainsþun þiuþeigs niba ains Guð.

Kam mane vadini geru? nè vieno nėra gero, tik Dievas.

I appeal to you, Alec, balance your unseemly modesty with compassion for my plight. Allow me my expiation for my sin, whereby I granted "decorum, propriety, and respectability" a prerogative not rightly theirs: to dam up the Truth from being proclaimed when it was due. At your memorial service, I *knew* it was only meet that I mount the rostrum to interrupt all those "correct and proper" eulogies being declaimed, that there was only one 6 word sentence that needed to be proclaimed: "He was the 'goodest' man alive." That would have been Truth's totality.

As a "socialized" being, I "controlled" myself; but since that day I have had to live with the guilt, guilt and sin that can only now be washed away, by proclaiming, for the Four Quarters of the Earth to hear, that which the small group, gathered on that bleak, rainy, and nasty, October day in 1975, should have heard proclaimed.

Alec loved the Indo-Europeans, a love that was almost unconditional; yet in their narrow limiting of their "earthling" word (e.g. Latin *homo/humanus*) he took great umbrage at them. For this Good Man realized that it is not mankind alone who are "earthlings"; all, who live and breathe and share this planet with us presumptuous ones, are "earthlings"

(*humani*). For this reason he never tired of quoting *Ṛg-Veda*.X.85.42:

<i>śaṃ no bhava dvipade</i>	Be thou well-disposed to our two-footed
<i>śaṃ catuṣpade.</i>	[beings], well-disposed to our four-footed
	[beings].

and the Iguvian Tablet VIB 10-11:

<i>fisouie. sanṣie. ditu. ocre. fisi.</i>	Fisovius Sancius, give to the
<i>tote. iouine. ocrer. fisie.</i>	Fisian Citadel, to the Iguvian
<i>totar. iouinar. dupursus/</i>	People, to the two-footed, to
<i>peturpursus. fato. fito. perne.</i>	the four-footed of the Fisian
<i>postne.</i>	Citadel, of the Iguvian People
	[benignity] by what is spoken/
	fated, by what comes to pass,
	[the] before [determined],
	[the] after [effectuated].

He found the denomination of the bad in *man* by the word "bestial" to be a slander on the non-man earthlings, and was wont to quote "*Homo homini lupus est.*"

Though he limited his published work to IE, his command of and insight into an unreckonable plethora of other language families was of the sort one only hears of in legend. He inhabited a magic world, where he was perpetually "turned-on," lost in the minutiae of language #153 or whatever number he was up to at any given time. Perhaps most important, he had the power to transmit this magic; one who came only had to be prepared to enter that world. To discuss Old Irish glosses with Alec was to be drawn into the magic circle. There mundane reality lost its substance; its earth-bound control of our lives ceased for an hour or two for him, who had the privilege of entering where Alec dwelled continually. The paucity of his publications was a negative, but necessary corollary of his inability to conceive that the magic was not known to all others, as it was to him. For this we are all the poorer; but one cannot love a man for who he is and also expect him to be someone else. If the world has lost the boundless potential for articles, nevertheless it had such a man amongst its denizens for over fourscore years. For this we are all the richer.

Alec would never permit an afterworld in which the dictum "*Multae terricolis linguae, coelestibus una*" obtained. I am sure that in the Elysian Fields, where now he dwells, there are *many more* tongues than the paltry sum that we in this world have to content ourselves with.

We, who were privileged to share some time with this gift of a man, are entitled to modify Alec's wonted quote and say: "Alexandrus etiam lupo *bonus* homo erat."

Now, as we send forth this memorial, it is seemly not merely for all *Fachgenossen*, not merely for all fellow "humans" (in the limited Indo-European sense of the word), but truly for all co-dwellers of this Earth, to join in bidding farewell and peace sempiternal to this Goodest Man of my knowing, Ya^caqob Alakšanduš* Kerns.

יזכר אלהים נשמת אבי מורי י. אלכסנדר בן יעקב שהלך לעולמו.
אנא תהי נפשו צרורה בצרור החיים. ותהי מנוחתו כבוד.
שבע שמחות את-פניך. נעימות בלימנך נצח. אמן:

Your son, disciple, and one
whom you designed to call
your colleague,

Yoël Arbeitman

כז באייר תשמ"א

*For the original forms and meanings of the "J. Alexander," see Yoël L. Arbeitman, "Luwio-Semitic *Mischname* Theophores in the Bible, on Crete, and at Troy," *Scripta Mediterranea, Bulletin de la Société d'Études Méditerranéennes* II (1981).

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SECTION I

KERNS-SCHWARTZ CODA

ON THE INDO-EUROPEAN TENSE SYSTEM*

J. ALEXANDER KERNS ז"ל and BENJAMIN SCHWARTZ

FOREWARD BY BENJAMIN SCHWARTZ

The death of Alex Kerns marked the end of an era for me. We had been so close for so many years. My best work was really his. I remember him back to the late 20's at N.Y.U., when at a "Saturnalia" party of the Classics Club, he went about with a sign on his chest reading SERVUS. Almost pathologically modest, a visitor to his classroom was regarded as a V.I.P. at whose feet Alex humbly stood.

In the days when a New York subway ride was a nickel and ten cents bought a Nedick's breakfast of coffee, orange drink, and a cruller, Alex kept a store of dimes in a vest pocket for panhandlers, whom he never turned away. I remember, I remember. My sponsor at Columbia, Louis H. Gray, outraged by Kerns' likening one of his papers to the views of Hirt, haled him to his office to remonstrate with that comparison. Later, Gray remarked to me: "That young man at N.Y.U., Kerns, certainly knows his Indo-European, doesn't he?"

*The editors are extremely grateful to Prof. Schwartz for "patching up" (his words) these notes for inclusion in the present volume. The concepts expressed in the resulting paper are (by their nature) to some extent a reflection of the state of the art of the period when these notes had their genesis. These concepts would, naturally, have undergone modification by confrontation with (1) the acceleratingly rapid increase in our knowledge of some of the not-so-well-known languages and (2) current theory in Comparative Linguistics. But Prof. Schwartz and the editors agreed that the purpose of publishing this piece is best served by presenting it essentially in the form in which it was originally conceived by its authors. The editors have limited their annotations to a minimum of references to some more recent discussions of some of the issues brought up, in their conviction that it is not in any way meaningful to "update" such a paper, a paper which forms a link in a tradition which is no longer with us in quite the same sense as reflected in this kind of writing. (YA)

Indeed he did. He had a lifelong love affair with the Indo-European verb, culminated by our co-authored book shortly before his death. Back in the days when Linguistics meant Indo-European *and* the mastery of every single one of the ancient Indo-European languages, he could and actually did prepare a written grammatical precis of all of them. Written in that unforgettable copper-plate handwriting which, he once told me, he had had to develop because his handwriting was so unreadable that he had to print instead of write.

And not only Indo-European. We once had a Peace Corps group for Somalia for which we (mainly he) had to prepare the language materials. There weren't any. We actually compiled a text from native informants that proved so effective that when the group disembarked at Mogadiscio they were able to startle the welcoming committee with a speech in impeccable Somali.

Curiously, I was never a student in any of his classes. But I consider him to have been my most significant teacher, as well as my closest and dearest friend.

With these few words of introduction, I will proceed to a presentation of this the last Kerns-Schwartz paper. There is no purpose in using words to try to express the unexpressible: Kerns is gone, leaving a void that can never be filled and bringing to an end the era of the giants of Indo-European scholarship -- perhaps better stated, the era when there were giants and Indo-European played a role that it just does not play anymore and never will again.

In the concrete sense of the word, it is, of course, I alone who have "written" this paper. But, as we all know, writing a paper is more than a concrete or physical process. In the deeper sense, this is a co-written paper, for, after a collaboration of close to 40 years, the ideas which originated with the one versus those which originated with the other are no longer distinguishable. Without Kerns to "remedy" my presentation, there will be gaffes, and I take full responsibility for these; yet I feel justified in patching together some of these accumulated notes that we together assembled and which have not significantly figured into previous Kerns-Schwartz publications.

* * *

1. Tense distinctions as such most probably did not exist in earliest Proto-Indo-European. Some lexemes were inflected with sg. 1 *-m, sg. 2 *-s, sg. 3 *-t; others with sg. 1 *-a, sg. 2 *-tha, sg. 3 *-e (or in whatever way these are restated by laryngealists). Merely as labels, the first group of lexemes may be called present stems, the second perfect stems. These are merely labels, for neither group of lexemes shows a united front, semantically or functionally. Why they should have ex-

isted at all is beyond our power to explain, though we suspect the so-called perfect stems are older, because when these developed a specific past, they did so on the analogy of one developing in the other group, that is, in the matter of personal endings.

The series **-m*, **-s*, **-t* developed extended forms with (deictic ?) **-i* as **-mi*, **-si*, **-ti* with specifically present connotation, leaving the older **-m*, **-s*, **-t* still ambivalent as to tense, and when a past to a "perfect" stem was formed it used, e.g., sg. 3 **-t*, not any recasting of its own **-e*.

2. Both groups of stems used the same endings for pl. 1 and pl. 2, but the pl. 1 raises the vexed question of the dual. Do we have (1) consonantal initial **w-* dual and **m-* plural (both subsequently plural in Hittite) with a pseudo-allophonic apportionment, or (2) a genuine allophonic apportionment in a Proto-Indo-European specific plural from which Indo-European proper¹ has stabilized **w-* as dual, **m-* as plural?² In the pl. 1 **-m*³ there are three forms: **-me* and extended **-mes*, **-mem*.⁴ Pre-Hittite kept only **-mem* > *-men*, and Hittite had already limited the ambivalent shorter forms *-m*, *-s*, *-t* to past connotation and extended *-men* to *-meni* on the analogy of *-mi*, *-si*, *-zi* (< IE **-ti*). While there may be some propriety in continuing to call *-mi*, *-si*, *-zi* primary endings, Hitt. *-meni* was a neo-primary and the earlier ambivalent *-men* was henceforth a "secondary" ending by default. As for

¹We have elsewhere ("Typological Contrasts for the Identification of PIE", in *Proceedings of the XIth International Congress of Linguists*, Bologna [1975], p. 455) defined Indo-European proper as "the subsequent period of the remaining dialects [of PIE] after the separation of Anatolian, down to their ultimate separation from each other".

²It is only fair to say that this was Sturtevant's opinion.

³For convenience, pl. 1 forms will be written with *-m-*, leaving aside possible relations with *-w-*.

⁴Perhaps earlier **-mes* ergative, **-mem* specifically non-ergative. We have the peculiarity that besides Hittite, it is only in Greek that **-m* final forms survive, and Greek, like Hittite, changes final **-m* to

the pl. 2 the old ending is ambivalent **-te*, with conceivable extensions **-tes* and **-tem*. Whether pre-Hittite ambivalent **-tem* (from which neo-primary *-teni* developed analogically) is a retention of a PIE **-tem* or analogical to **-mem* cannot be decided. At all events, it, like **-mem*, becomes a Hittite secondary ending by default. If there were PIE **-tes* and **-tem* forms, they were in Indo-European proper apportioned to the dual. As duals these may have been ambivalent as to person (second and third), with the **-tem* form best known in its ablaut variant **-tom* (Gk. *-τοῦ*). It looks increasingly as if the dual in verbs was an Indo-European proper innovation.

For simplicity's sake, let us grant here that the non-sg. 1 **w-/*m-* alternation was allophonic in nature in Proto-Indo-European (Sturtevant's view, cf. fnnt. 2). We can then proceed to conceptualize the complicated interlocking of relationships in these various creations of "neo-primaries" as follows:

1. For Indo-European proper in non-sg. 1 there may have been a contrast: primary **-mes/*-mem* ~ secondary **-me* (primarily indicated by Indo-Iranian and [for the dual] by Gothic [cf. W. Krause, *Handbuch des Gotischen*, München, 1968, p. 261]).
2. For Indo-European proper in non-sg. 2 this identical means is used for a different function: **-tem* indicates dual (largely indifferent to 2/3 contrast) while **-te* indicates plural. The main witnesses to this are Greek and Sanskrit (in the secondary ending). See 7 below.⁵

-n, e.g., neut. nom-acc. Hitt. *pedan* : Gk. *πέδον*, both < IE **pedom*. So the seemingly dual testimony to a final *-n* in these desinences is a mirage due to mere happenstance.

⁵[It is this view of the authors concerning the development PIE **-tem* > Hitt. *-ten*, Skt. (du.) *-tam* that brings them to posit the proto-form with a final **-m*, thereby having to reject the canonical connection of the Hittite form(s) (not only for the second person but also, by extension, for the first person) with the "extended" Vedic forms for pl. 2, primary *-thana*, secondary *-tana* (e.g., E. H. Sturtevant, *A Comparative Grammar of the Hittite Language*, 2nd ed., New Haven, 1951, p. 140, and T. Burrow, *The Sanskrit Language*, 3rd ed., London, 1973, p. 309). There are, to be sure, certain advantages to each view, but the words of the old saw hold true that you can't have your cake and eat it too. YA]

3. In Indo-European proper the contrast $*-we(s) \sim *-me(s)$ comes to be exploited to indicate a dual/plural contrast for non-sg. 1.
 4. In non-sg. 2 the primary/secondary contrast gets filled out in different ways by the specific languages (neo-primaries); we will not dwell here on the ways followed.
 5. In pre-Hittite, the unextended forms $*-me$ and $*-te$ fall into utter desuetude with the result that $-men$ and $-ten$ are utilized for secondary function and neo-primaries ($-meni$ and $-teni$) are created to fill the need to indicate primary function. A logical corollary of this would seem to be that in Proto-Indo-European the situation was different from that set up (see 1 above) for Indo-European proper, viz., $*-me$ vs. $*-mem$ (and $*-mes$) did not serve to indicate a secondary vs. primary tense distinction. Rather the three forms, $*-me$, $*-mem$, and $*-mes$ (with some such significance for the last two as indicated in fn. 4, vs. neutral significance for $*-me$, the unmarked member of the three-way contrast), were all available for potential exploitation. And likewise $*-te$ vs. $*-tem$ (and $*-tes$) did not serve to indicate a dual/plural contrast.
 6. Similar neo-primaries for non-sg. 1 develop in Indo-Iranian. In early Vedic $-masi$ is the overwhelmingly predominant form, yet in Classical Sanskrit there is only $-mas$. Surely Proto-Indic must have had free variants $*-mas/*-masi$ and in the dialect that specifically led to Classical Sanskrit the $*-masi$ form wasn't used. No $*-vasi$ is attested for any period of Old Indic, but the Av. $-vahi$ makes it obligatory to posit it for Indo-Iranian. The cause for the creation of these neo-primaries in Indo-Iranian cannot be that which we proposed above for Hittite, for in Indo-Iranian the secondary forms are pl. 1 $-ma$, du. 1 $-va$ (not secondary $*-mas/*-vas$ vs. neo-primary $-masi/-vasi$). So the cause must be sought in analogy to the forms of the sg.: $-mi$, $-si$, $-ti$.
 7. In Indo-European proper the old $*-tem$ in various ablaut grades gets relegated to secondary tense function and dual number function; primary evidence Skt. (the extent to which such matters must be limited to individual languages or assumed for whole areas, e.g., Indo-European proper, cannot be dealt with here) du. 2 $-tam$, 3 $-tām$. In Greek we have officially du. 2 $-τον$, 3 $-την$, but with occasional "reversals" (cf. W. H. Smyth, *Greek Grammar*, Cambridge, 1959, §464d).
3. In the "present" stems, at least, there was a pl. 3 ambivalent $*-nt$, which developed a specifically presential extension $*-nti$ at the same

time as **-mi*, **-si*, **-ti* mentioned above. For the "perfect"⁶ stems the pl. 3 is in doubt. Hittite shows the same **-nti* as the "present" stems, as do some, but not all, of the Indo-European proper dialects. Some Indo-European proper dialects have a pl. 3 ending containing **-r*, generally assumed as impersonal (and figuring, of course, in some compound endings of the medio-passive), but which, when used in the active, on the whole, tended to acquire a past connotation, so that it becomes the Hittite preterite pl. 3 for all stems, while the older past indicator, **-nt*, dies out completely (but not in Luwian, where the form is *-nta!*). In Indo-European proper the older ambivalent forms **-m*, **-s*, **-t*, and **-me*/**-mem*/**-mes*, **-te*, **-nt* did not become specifically preterite as they did in Hittite; their most spectacular survival with presential connotation occurs in the Old Irish "conjunct" present inflection,⁷ with scattered instances elsewhere, e.g., Lat. sg. 2 *-s* and Lithuanian sg. 3 zero for thematics.⁸ Most Indo-European proper dialects never developed neo-primaries for the pl. 1 and pl. 2. Sanskrit and Old Irish did, but probably independently of each other.

4. Both the early Proto-Indo-European "present" and "perfect" were probably inflected as bi-phasal athematics, e.g., sg. **ésmi* : pl. **smé*, etc. The "present" stems, much more than the "perfect" stems,⁹ were

⁶[When the authors use the rubric "perfect" with reference to Hittite, they refer, of course, to the "*hi*-conjugation". The recent literature on the validity of this canonical equation, Hittite *hi*-conjugation ~ IE perfect, is voluminous and cited by W. Cowgill in his "More Evidence for Indo-Hittite: the Tense-Aspect System", in *Proceedings of the XIth International Congress of Linguists*, Bologna (1975), and "Anatolian *hi*-Conjugation and Indo-European Perfect: Installment II", in *Hethitisch und Indogermanisch*, Innsbruck (1979). YA]

⁷Cf. esp. W. Meid, *Die indogermanischen Grundlagen der altirischen absoluten und konjunkten Verbalflexion*, Wiesbaden (1963), pp. 54-9.

⁸[For Lithuanian see the discussion in Ch. S. Stang, *Vgl. Grammatik der baltischen Sprachen*, Oslo (1966), pp. 410 and 421. For a summary of the facts for Indo-European as a whole, see O. Szemerényi, *Einführung in die vgl. Sprachwissenschaft*, Darmstadt (1970), pp. 218-19. YA]

⁹That the Anatolian counterpart of the IE proper **na*/**nə* formant

susceptible to extensions by sub-lexemes, for short, formants; when so extended we call them characterized. Two widely used formants were $*-\hat{i}e$ and $*-\hat{s}ke$. Stems so characterized were somewhat differently inflected, becoming the earliest thematics (presumably of Brugmann's Type B with accent on the stem final) as $*g^u\hat{m}s\hat{k}\acute{e}-ti$. In some of these the accent was later retracted as $*g^u\hat{m}s\hat{k}e-ti$ (with quantitative ablaut already powerless, cf. Skt. *gācchati*), thus eventually falling into Brugmann's Type A with accent on the pre-stem final syllable. Hittite has many characterized thematic stems. If it has only doubtful instances of simple thematic stems,¹⁰ it is because the latter type was just beginning to arise at the time of the separation (analogically, of course, and largely by the recasting of stems earlier athematic). In Indo-European proper the productivity of the thematic type never ceased and the much older athematics eventually came to be regarded as abnormal.¹¹ In passing, H. Wagner's dictum¹² that early Indo-European proper verb inflection is predominantly a "root inflection, like that of Semitic" but later becomes "stem inflection" (we would say characterized stem inflection) misses the mark in every respect. Semitic can exhibit an impressive array of characterized stems from its very beginning, and Vedic Sanskrit and Homeric Greek surely exhibit as many such as does any later Indo-European.

With the expansion of the thematic type in Indo-European proper comes the neological sg. 1 $*-\bar{o}$. We have no idea of its origin, but ap-

should occur only in "perfect" stems as Hitt. sg. *tarnahhi* is puzzling. Is this an earlier isolated situation which in Indo-European proper has been "regularized"?

¹⁰[Cf. the discussion of this canonical view in Y. Arbeitman "The Hittite Multifarious Brood of $*dh\bar{e}-$ ", in *RHA* XXXI (1973), to which add E. Laroche, *Dictionnaire de la langue louvite*, Paris (1959), p. 143: "La distinction formelle (a) verbes athématiques, (b) verbes thématiques est brouillé par une masse de graphies capricieuses qui peuvent refléter un réel désordre". YA]

¹¹The belated and brief resurgence of athematic productivity in Lithuanian, as sg. 3 *sniëgti* : thematic *sniëga*, *sniūga*, is exceptional.

¹²*Das Verbum in den Sprachen der brit. Inseln*, Tübingen (1959), pp. 247ff.

parently, after some fumbling (in Old Irish, its descendant is among the conjunct endings, i.e., the secondary endings), it finally settles down as the almost undisputed primary ending for thematics. Another specifically Indo-European proper innovation is the augment, which, in the dialects where we know it existed,¹³ gave Indo-European proper as clean-cut a distinction of present vs. past as Anatolian had achieved solely by the use of personal endings.

5. Here it must be noted that Indo-European proper still had an abundance of differently characterized present stems, almost an embarrassment, because the old semantic distinctions among them were fading. Many of the characterized stems retained only a vague colorfulness as against the dry, flat, factual connotations of the corresponding simple stems. Many old stems, both characterized and simple, went out of use in the various dialects, but by no means always the same ones in every dialect: the "desuescence" acted in a dialect specific manner. And of

¹³Basically, of course, Indo-Iranian, Greek, Armenian, and what little we have of Phrygian. In Armenian it operates by a specific rule: the augment is preserved in aorists (the Armenian imperfect is not a continuation of the Indo-European category, but a neological one [see J. A. Kerns and B. Schwartz, *A Sketch of the Indo-European Finite Verb*, Leiden, 1972, p. 8]), where the resulting form would otherwise be monosyllabic (Kerns and Schwartz, *op. cit.*, p. 61, where the non-occurrence of the augment where expected and its occurrence where it is not "proper" are discussed). Precisely the same kind of happenstance that was responsible for the seeming Hittite-Greek agreement cited in fnnt. 4 also produces in this matter such a seeming agreement between Classical Armenian and Modern Greek; in the latter the augment occurs or not by operation of the following rule: it occurs only "in the active past tenses whenever the total number of stem and ending vowels is less than three". It "is prefixed to (most) stems whenever one-syllable secondary endings are added to one-syllable stems" (F. Householder, K. Kazasis, and A. Koutsoudas, *Reference Grammar of Literary Dhimotiki*, Bloomington, 1964, p. 113. The two formulations given by the authors are not cited here in their order). [To permit any discussion of the augment problem without, at the very least, a reference to the analysis, awesome in its implications, of C. Watkins, *IE Origins of the Celtic Verb*, Dublin (1962), p. 114, would be tantamount to criminal neglect; but to follow up such ramifications here would be beyond the scope of this paper. YA]

those that continued in use, advantage was taken to set up a semantic classification of simple bipolarity: colorful and colorless. At first a present and a past could be formed from either, but the colorless presents never achieved separate paradigmatic status; many died out altogether, and the surviving ones are only morphologically (not paradigmatically) identifiable over much of the area as "aorist" presents: *CR̥C* vs. *CVRC* type. But both the colorful and colorless pasts, however formed, continued in use with a paradigmatic as well as a morphological distinction, the first as imperfects (always with a corresponding present), the second as aorists. Simple athematic and thematic aorists (of types Skt. *á-sthā-t*, Gk. ἔ-στυν-ν; Skt. *á-ricā-t*, Gk. ἔ-λιπο-ν) are of obvious origin, but it is to be noted that the athematics, doubtless earlier bi-phasal, tend early to extend the major phase (originally proper only to the singular of the active) to the dual and plural, as Skt. pl. 1 *á-sthā-ma*, Gk. ἔ-στυν-μεν, but Skt. pl. 3 *á-sth-ur*; in Greek, where the old minor phase is kept in the dual and plural as pl. 1 ἔ-θε-μεν, ἔ-δο-μεν,¹⁴ there is replacement of the expected major phase *ἔ-θη-ν with a neologism ἔ-θη-κα.

6. Next, it must be admitted that *s- characterizations of present stems are not very numerous in Indo-European proper, though apparently somewhat more prevalent in Anatolian (of the type Hitt. *pai-*, *pe-* "give, send" : *peš-*, same meaning). In Indo-European proper pasts made from *s- characterizations seem to have been favored as colorless pasts (the *s- formant, whatever its origins, so far from adding semantic color and vividness, may even have been a bleaching agent), ultimately, of course, the source of the *s- aorists, with their wide variety of later morphological extensions and sub-varieties. Probably the athematic aor-

¹⁴The Greek reflexes of the major/minor phases of laryngeal stems are, as is well known, different from those of Sanskrit: Gk. *V:V* vs. Skt. *V:Ø*, e.g., present active from IE **dheH-*: Gk. τύθημι : τύθεμεν vs. Skt. *dádhi* : *dádhi*. This is a question separate from the fact that we would expect IE **e* to yield Gk. α (Kerns and Schwartz, *op. cit.*, 41).

ists with $*\bar{e}-$ and $*\bar{a}-$ characterizations (monophasal in the active, like the ultimate form of the old simple athematic aorists mentioned above, which may well have been the model on which they were formed) are later still; these, of course, are most sensationally successful in Baltic, where they lead to the recasting of various earlier aorists. But these (or one of them, the $*\bar{e}-$ type) figures in the Greek second aorist passive, and both occur in Slavic and Armenian, though apparently with $*\bar{e}-$ extension. The Sanskrit aorist passive sg. 3 in $-i$ ($< *-\bar{e} ?$) may be a survival of the minor phase of these aorists, used without ending. At any rate, all aorists are Indo-European proper innovations (or even later innovations, as, e.g., the Armenian $\varphi-$ aorist).

7. Somewhere in the Indo-European proper period, the somewhat moribund "perfect" stems received a new lease on life. Semantically they may have achieved a connotation more or less justifying the label and new perfect stems must have been coined wholesale to match contrastingly with existing present (and aorist) stems. Morphologically, particularly these newly coined perfects were generally tricked out with $*e-$ reduplications. Later still, various paradigmatic ambivalences and even morphological conflations of perfects and aorists developed, e.g., in Celtic, Italic, and Germanic.

8. To some extent the old injunctives, that is, the $*-m$, $*-s$, $*-t$ tenseless forms, of course without augment, could be used modally as imperatives, though (1) the sg. 2 imperative was frequently endingless (perhaps so in origin under all circumstances), but (2) there is a sg. 3 $-tu$ and the corresponding pl. 3 $-ntu$ in both Hittite and Indo-Iranian. Apart from its imperative use, the injunctive could have various other modal uses, as it does in Vedic Sanskrit. But in particular it was the injunctives of the $*\bar{e}-$, $*\bar{a}-$ suffixal aorists that were especially favored for modal use, apparently mostly in dialects where such stems did not ultimately thrive as aorists (and so were left over, as it were,

for reassignment to another task).¹⁵ These were numerous, if not symmetrically, imitated in recastings of other aorist (and eventually present) stems, so that, e.g., beside present stem **bhere-* (itself a recasting of the older athematic **bher-*), there arose monophasal **bherā-* and **bherē-* (which at first could be inflected only with secondary endings) to form a "subjunctive". As for the "short-vowel subjunctive" to athematic present stems, its origin may have been a mere case of polarity; thematic "indicative" **bhere-* : athematic subjunctive **bherē-/bherā-* could have suggested *per contra*, athematic indicative **es-* : thematic subjunctive **ese-*. Over most of the field this type of subjunctive did not achieve lasting success. Meanwhile, Anatolian did not lose the subjunctive -- it never had one. In a somewhat different way, the formation of the Indo-European proper optative (another innovation) took place.

Returning to the imperfect, the presence of numerous neological imperfect indicatives (in Italic, Celtic, Lithuanian, Slavic, Albanian, Armenian, Tocharian) seems to imply a one-time wider use of the augment imperfect in many more dialects than attested. In general these neological imperfects have the same functional uses as those with augment, and it is tempting to consider them as substitutions. To be sure, the Lithuanian imperfect has a more restricted usage than the other neological imperfects and so far as we are aware, there is no imperfect of any sort in Latvian. In Germanic the absence of a specific imperfect is noteworthy, but the so-called weak preterite is typologically so similar to the neological imperfects of Italic and Slavic, that one wonders if it was not at one time specifically an imperfect, and that only when the old perfect and aorist became so far semantically interchangeable that widespread morphological conflation became possible, did this form also lose its specific imperfect connotation, becoming merely an alternative type of preterite surviving in certain verbs.

¹⁵Though in the case of Tocharian, we subscribe to Lane's view that they figure in both capacities.

SECTION II

INDO-EUROPEAN STUDIES

THE PRE-HISTORY OF TOCHARIAN PRETERITE PARTICIPLES

DOUGLAS Q. ADAMS
University of Idaho

Both Tocharian A and B show a highly productive system of preterite participles, e.g., B *papaikau* [A *pāpeku*], accusative singular *pa-paikaṣ* [A *pāpekunt*] "(having) painted/written". Generally, as the English gloss would suggest, these participles signal priority of action. It was evidently Pedersen (1941:111) who first recognized that such participles had to be the descendants of the Proto-Indo-European perfect participles ending in **-wōs-* ~ **-us-*. As in the case of Baltic, which also retains the Proto-Indo-European perfect participle, phonological and analogical changes have caused major rebuilding of the paradigm and tended to obscure the Proto-Indo-European heritage (cf. Bammesberger 1974).

On the basis of Tocharian B paradigms, which show more distinctions in this matter than those of Tocharian A, we can classify the Tocharian preterite participles into four groups (cf. Krause-Thomas 1960:156-7).

Group I (Non-reduplicated), e.g., *ltu* [A *lantu*] "having come out":

	MASCULINE	FEMININE
Sg. Nom.	<i>ltu</i> [A <i>lantu</i> ¹]	<i>ltusa</i> [A <i>lantus</i>]
Acc.	<i>ltuweṣ</i> [A <i>lantunt</i>]	<i>ltusai</i> [A <i>lantusām</i>]

¹Tocharian B reflects the inherited Proto-Tocharian shape of this participle, **lātu-* from PIE **(E)ludhwōs*. Tocharian A shows disguised,

Pl. Nom.	<i>ltuweṣ</i> [lantuṣ]	<i>ltuwa</i> [lantunt]
Acc.	<i>ltuweṣäm</i> [lantuñcäs]	<i>ltuwa</i> [lantunt]

Group II (Both reduplicated and non-reduplicated), e.g., *kekesu* [A *kaksu*] "having extinguished":

	MASCULINE	FEMININE
Sg. Nom.	<i>kekesu</i> [kaksu]	<i>kekesusa</i> [kaksus]
Acc.	<i>kekesoṣ</i> [kaksunt]	<i>kekesusai</i> [kaksusäm]
Pl. Nom.	<i>kekesoṣ</i> [kaksuṣ]	<i>kekesuwa</i> [kaksunt]
Acc.	<i>kekesoṣäm</i> [kaksuñcäs]	<i>kekesuwa</i> [kaksunt]

Group III (Reduplicated), e.g., *papaikau* [A *pāpeku*] "having painted/written":

	MASCULINE	FEMININE
Sg. Nom.	<i>papaikau</i> [pāpeku]	<i>papaikausa</i> [pāpekus]
Acc.	<i>papaikaṣ</i> [pāpekunt]	<i>papaikausai</i> [pāpekusäm]
Pl. Nom.	<i>papaikaṣ</i> [pāpekuṣ]	<i>papaikauwa</i> [pāpekunt]
Acc.	<i>papaikaṣäm</i> [pāpekuñcäs]	<i>papaikauwa</i> [pāpekunt]

analogical, reduplication, i.e., (as if) from Proto-Toch. **lelätu*-. Such a form would have given Toch. A **laltu*-, but the second -*l*- was dissimilated to -*n*-. This dissimilation, far from disrupting the unity of the paradigm, created a clear connection, however etymologically spurious, between the preterite participle stem, *lantu*-, and the stem of the present, *länt*- from PIE *(E)*lu-n-dh*-.

The masculine accusative forms in Tocharian A show the influence of Proto-Indo-European adjectives in *-*went*- and participles in *-*ont*-. The mutual influence of the paradigms of *-*went*- and *-*wos*- in Tocharian A may be illustrated by comparing the declension of the preterite participles, e.g., of *lantu*-, with a typical adjective in *-*went*- such as *ymassu* "thoughtful":

	MASCULINE	FEMININE
Sg. Nom.	<i>ymassu</i> [B <i>ymassu</i>]	<i>ymassunt</i> [B <i>ymassuntsai</i>]
Acc.	<i>ymassunt</i> [ymassont]	<i>ymassuntsäm</i> [ymassuntsai]
Pl. Nom.	<i>ymassuṣ</i> [ymassoñc]	<i>ymassunt</i> [ymassonta]
Acc.	<i>ymassuñcäs</i> [ymassontäm]	<i>ymassunt</i> [ymassonta]

Group IV (Non-reduplicated), e.g., *kālpau* [A *kālpō*] "having attained":

	MASCULINE	FEMININE
Sg. Nom.	<i>kālpau</i> ~ <i>kālpō</i> _u ~ <i>kālpowō</i> ² [<i>kālpō</i>]	<i>kālpaua</i> [<i>kālpōs</i>]
Acc.	<i>kālpōṣ</i> [<i>kālpont</i>]	<i>kālpauṣai</i> [<i>kālpōsām</i>]
Pl. Nom.	<i>kālpōṣ</i> [<i>kālpōṣ</i>]	<i>kālpauwa</i> [<i>kālpont</i>]
Acc.	<i>kālpōṣām</i> [<i>kālpōñōās</i>]	<i>kālpauwa</i> [<i>kālpont</i>]

As an examination of these paradigms will show, Tocharian B has four distinct types of preterite participle while Tocharian A has only two. Of these two, one has a masculine nominative singular in *-u* (and corresponds to Tocharian B's groups I, II, and III), and the other in *-o* (and corresponds to Tocharian B's group IV). Internal reconstruction in Tocharian A itself suggests that the lack of distinctions when compared with Tocharian B is an innovation. One can see such an innovation most clearly in the case of A *pāpeku* and the like which, since it shows the effect of *ā*-umlaut (cf. Cowgill 1967; Adams 1978b), demonstrates the earlier existence of a stem **pāpāykā-* (from an earlier **pepeykā-*) as in Tocharian B.

Thus, as is usually the case, the situation seen in Tocharian B is more archaic than that seen in Tocharian A and probably reflects the state of affairs of Proto-Tocharian with little change. That being so, we must ask ourselves how we can derive the paradigms of Tocharian

²The usual form is *kālpau*. All three forms, *kālpau*, *kālpō*_u, and *kālpowō* are surface manifestations of a more underlying /*kālpōwā*/. The forms *kālpō*_u and *kālpowō* show the alternative possibilities for a final *-ā* in an immediately posttonic syllable in Tocharian B, namely, loss or shift to *-o*. The usual *kālpau* reflects the change in the central or "standard" dialect (cf. Winter 1955) of *-ow-* to *-aw-* before a consonant or pause.

Final schwa disappears without a trace if the stress is antepenultimate, hence only *papaikau* from /*pāpāykāwā*/. In groups I and II, the masculine nominative ending is /*-āwā*/ or /*-uwā*/, either of which would give superficial *-u*, whether stressed (as in group I) or unstressed (as in group II).

B or of Proto-Tocharian from the paradigm of the Proto-Indo-European perfect participle in **-wōs-* ~ **-us-* for it is clear that its development in Tocharian is not just the sum of the phonological changes which have occurred³. Questions whose answers are not immediately obvious include: (1) the origin of the feminine plural in *-wā* (which cannot reflect PIE **-usās*), (2) the lack of a *-w-* outside of the masculine nominative singular⁴, and (3) the origin of the vowel *-o-* in Tocharian B groups II and IV and in the corresponding Tocharian A group IV.

The probable late Proto-Indo-European antecedent for Tocharian B *ltu* "having come out" would look something like the following (the exact form of the paradigm in Proto-Indo-European is suggested by Hamp 1971:443):

	MASCULINE	NEUTER	FEMININE
Sg. Nom.	<i>*ludhwōs</i> ⁵	<i>*ludhus</i>	<i>*ludhusā</i>
Acc.	<i>*ludhwosm</i>	<i>*ludhus</i>	<i>*ludhusām</i>
Gen.	<i>*ludhusos</i>	<i>*ludhusos</i>	<i>*ludhusās</i>

³Pedersen's suggestion (1941:233) for instance of a contraction of **-āwe-* to *-ā-* does not appear possible. Even less likely is van Brock's suggestion (1977:78) of a contraction of **-we-* to *-o-* since she does not explain under what conditions *-we-* is retained.

⁴Synchronically the feminine forms of the Tocharian B paradigms result from the simple addition of *-sā* (in the singular) and *-wā* (in the plural) to the form of the masculine nominative singular. Earlier forms of the masculine nominative singular and of the feminine plural of group I were **-āwā* and **-āwā* respectively. Later these two forms became *-u* and *-uwā*. At this point it was possible to analyze the feminine plural as the addition of *-wā* to the masculine singular in *-u*, i.e., as *-u-wā*. This analysis was analogically transferred to the singular so as to give *-u-sā* rather than **-āsā* and to the feminine of other stem types of preterite participle.

⁵The Greek cognates, e.g., ἐλεύσομαι, suggest that the Proto-Indo-European form should be reconstructed with an initial laryngeal, i.e., as **Elewdh-*. Since the initial laryngeal would have been lost in Tocharian in any case, it has been omitted here.

P1. Nom.	<i>*ludhwoses</i>	<i>*ludhusā</i>	<i>*ludhusā</i>
Acc.	<i>*ludhusŋs</i>	<i>*ludhusā</i>	<i>*ludhusā(n)s</i>

Probably the first Proto-Tocharian phonological change to affect this paradigm was the loss of final *-s*. This change would have left a paradigm like the following:

	MASCULINE	NEUTER	FEMININE
Sg. Nom.	<i>*ludhwō</i>	<i>*ludhu</i>	<i>*ludhusā</i>
Acc.	<i>*ludhwosm̐</i>	<i>*ludhu</i>	<i>*ludhusām</i>
Gen.	<i>*ludhuso</i>	<i>*ludhuso</i>	<i>*ludhusā</i>
P1. Nom.	<i>*ludhwose</i>	<i>*ludhusā</i>	<i>*ludhusā</i>
Acc.	<i>*ludhusŋs</i>	<i>*ludhusā</i>	<i>*ludhusā</i>

Since the neuter singular looked exactly like the neuter singular of an *u*-stem after this change, a new neuter plural in **-wā* became possible which eventually ousted the older **ludhusā*. Later the neuter disappeared as an inflectional category with the singular being absorbed by the masculine singular and the plural falling together with the feminine plural. In the latter instance the newly combined plural category was almost always formally represented by what had been the old neuter plural. In many cases, as in this one, the old neuter plural might well have been favored because it was more clearly characterized than the old feminine plural (e.g., **ludhwā* rather than **ludhusā*, which was identical with the nominative singular of the feminine, **ludhusā*). At a later stage of Proto-Tocharian, once the various phonological changes which affected vowels had taken place (cf. Adams 1978b), the Proto-Tocharian speaker would have been left with a paradigm like the following:

	MASCULINE	FEMININE
Sg. Nom.	<i>*lätwū</i> (later <i>*lätwä</i>)	<i>*lätäsā</i>
Acc.	<i>*lätwesän</i>	<i>*lätäsō</i>

Gen.	*lätäse	
Pl. Nom.	*lätwesjā	*lätwā
Acc.	*lätäsäns	*lätwā

Most important for the further development of this paradigm was the phonological development whereby an *-ä- was inserted between certain obstruents and a following resonant (e.g., Toch. B *ṣpane* "sleep" from *ṣäpāne from *ṣäpne from PIE *swepnos) which resulted in a paradigm like the following:

	MASCULINE	FEMININE
Sg. Nom.	*lätāwä	*lätäsā
Acc.	*lätāwesän	*lätäsā
Gen.	*lätäse	
Pl. Nom.	*lätāwesjā	*lätāwā
Acc.	*lätäsäns	*lätāwā

Thus it would have appeared to the Proto-Tocharian speaker that he was faced with a participial ending in *-ä- to which one added *-wä to form the masculine nominative singular, *-wes- to form the other strong cases, and *-s- for the weak cases. By analogy this meant that a participial stem ending in *-ä- would have a masculine nominative singular in *-ā-wä (e.g., Toch. B *papaikau*) and an accusative plural in *-ā-s- (e.g., Toch. B *papaikaṣām*). The strong grade in *-wes- was replaced everywhere by the weak *-s- except in the generally archaic group I in Tocharian B⁶.

⁶It is worth noting that a precisely parallel series of analogical changes occurred in the paradigm of adjectives ending in (PIE) *-wōnt- ~ *-unt-. A paradigm such as the following:

Sg. Nom.	*-C-wōnt
Acc.	*-C-wontm
Pl. Nom.	*-C-wontes
Acc.	*-C-untm

To answer the third question posed above, namely the source of the *-o-* which appears in Tocharian B groups II and IV and in Tocharian A group IV, we must go slightly further afield than the Proto-Indo-European preterite participle. It is most natural to take this *-o-* (Proto-Toch. **-o-*) as reflecting a masculine nominative singular **-ōnt* in Proto-Indo-European. A PIE **-ā/ōN(C)* in word final position is the only source giving Proto-Toch. **-o-* which does not involve rounding by a following rounded vowel (as in Toch. B *soy* "son" from PIE **suyus*). This **-ōnt* cannot, of course, be part of the paradigm of the perfect participle but must reflect a Proto-Indo-European aorist participle. That the Proto-Indo-European perfect and aorist participles should have become entwined is not surprising since the finite forms of the Proto-Indo-European perfect and aorist also fell together (cf. Adams 1978a:278). Tocharian B preserves only the *-o-* from the Proto-Indo-European aorist participle while Tocharian A of course shows much more extensive traces of the *-nt-* of the aorist participle formative.

To explain the situation actually seen in the Tocharian languages, we need only assume that the vowel *-o-*, once proper only to the masculine nominative singular, was generalized to the whole paradigm in Tocharian A participles of group IV. In Tocharian B, on the other

would appear in Proto-Tocharian in the following guise:

Sg. Nom. **-C-āwä*
 Acc. **-C-āwentän*

Pl. Nom. **-C-āwentīä*
 Acc. **-C-āntäns*

This pattern is seen in Toch. B **špālu* "excellent", gen. pl. *špaluwen-tats* with the weakest form of the suffix, *-nt-*, eliminated. The allomorph *-went-* disappeared, however, when this development of the PIE **-wōnt-* ~ **-unt-* was extended to stems ending in vowels, e.g., Proto-Toch. **pälle-* (PIE **p̥lno-*) which appears in Tocharian B with a nominative masculine singular *pälle_u* "full (of the moon)" and other cases built on *pällent-*. In the case of stems ending in PIE **-s-*, the **-sw-* of the strong cases gave Toch. B *-ss-*, and this cluster was extended to all forms (cf. footnote 1).

Tocharian A of course confounds this formative in **-nt-* with the preterite participles in **-wōs-*.

hand, the *-o* was taken as a stem formative to which the usual endings, **-wä*, **-s-*, etc. were added. The presence of *-o-* in Tocharian B's group II may be explained either as a partial adaptation of that paradigm to that of group IV or possibly as the phonologically regular development of an earlier *-u-* (extended from the nominative singular) when in certain kinds of closed syllables.

Later developments aside, it is interesting to see that the dialect of late Proto-Indo-European from which Tocharian is descended showed the full Proto-Indo-European panoply of aspects: present, aorist, and perfect, complete with their attendant participles. As is so often the case, once the surface of Tocharian morphology has been scratched, one can see the rich Proto-Indo-European system lurking just beneath.

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RHOTACISM IN HIEROGLYPHIC LUWIAN

YOËL ARBEITMAN and GILBERT-JAMES AYALA
New York, N.Y.

The phenomenon of rhotacism¹ of an intervocalic dental stop is well known in Hieroglyphic Luwian.² We will confine our examination to the Karatepe Bilingual (Hieroglyphic Luwian and Phoenician), the Hieroglyphic Luwian text of which occurs in two versions: an upper and a lower (hereafter abbreviated, respectively, as U and L). Throughout the text, an intervocalic etymological dental stop is sometimes represented by *t*-signs, sometimes by *r*-signs. If one or the other version consistently used the *t*-signs where the other version employed the *r*-signs, we might be justified in seeing herein two different dia-

¹In Armenian, while IE *dh* > *d*, IE *d* > *t*, IE *t* > *t'*, IE *d* in the cluster *dw* > *r*: *erku* "two" < **dwō* and *erkn* "birthpangs" (literally "an eating, biting") < **edwōn*. This latter shows a lengthened-grade of the suffix *-un* attached to the root *(*H*₁)*ed-* "eat, bite" (see Jochem Schindler, "Armenian *erkn*, Greek *ὀδύνη*, Irish *idu*", in *Indo-European Studies II*, edited by Calvert Watkins [1975]); the zero-grade of the suffix (further extended by *-ā*) is seen in the Greek cognate *ὀδύνη* (Aeolic *ἐδύνα*) "pain" and in Luwoid infinitives such as HL *at/runa* "to eat".

²It has been proposed by Bomhard (1976:\$11.1) that the Anatolian languages had only phonemic voiceless stops and that the Mudge-Sturtevant Law is a mirage. We might add to Bomhard's arguments that it postulates a high degree of phonemic sophistication to assume that the users of the Hittite cuneiform syllabary analyzed /k/, /p/, and /t/ as voiceless and decided to denote them as a set by double consonant writing and concomitantly analyzed /g/, /b/, and /d/ as voiced and decided to denote them by a single consonant writing (whatever the situation may have been in Hurrian is irrelevant as it is now known that the Hittites obtained their cuneiform before the period of [Mittani]-Hurrian

lects.³ But this is not the case. What we actually have is that (1) sometimes U writes *t*, while L writes *r*; (2) sometimes the exact converse; (3) sometimes both write *t*; and (4) sometimes both write *r*. Karatepe XVIII may serve to illustrate the phenomenon as this single phrase contains three of the four possible permutations. It reads:

U	<i>á-mi-tí</i> IUSTITIA-na-ri <i>á-mi-ia+ri-há</i> ,SAPIENTIA,-ta-na-sa-ma-ri	
L	<i>á[-mi]-ia-ti</i> IUSTITIA-na-ti <i>á-mi-ia+ri-ha</i> ,SAPIENTIA,-á-ta-na-sa-ma-ti	
U	<i>á-mi+ri-ha</i> BONUM-sa-na-wa-sa-tara-tí	} "by my justice, and by my wisdom, and by my goodness"
L	<i>á-mi-ia+ri-há</i> BONUM-sa-na-wa-sa-tara-ti	

The above examples are all ablative endings. The vacillation occurs also in the 3 sg. ending and in stem interior, even in Azatiwatas' name, written 'stwd in Phoenician.⁴ The change even occurs across clitic word boundary, as with the enclitic -ta "eos, ea" in phrase XXII:

U	<i>á-mu-pa-wa-ma-ara</i> á+LITUUS-za-ti-wa-tà-sá ,PES, pa-tà-za SUB-na-na
L	<i>á-mu-pa-wà-ma-tà</i> á+LITUUS-za-ti-wa+ra-sá ,PES, pa-[•]-za SUB-na-[•]

influence [see A. Kammenhuber in *Altkleinasiatische Sprachen*, pp. 163 and 177 {including fnt. 1}, E. J. Brill, 1969)].

³In this point, we disagree with J. Friedrich, who saw *Hochsprache* and *Umgangssprache* respectively in the appearance of intervocalic *t* or *r*. The two forms are, after all, used interchangeably in one and the same official state document, which we would expect, to judge by Friedrich's parallels in Dutch and Swedish, to be composed uniformly in *Hochsprache*.

⁴This seems to dispose of the formerly popular reconstruction "Azitawandas". (The vocalism of the first two syllables also differs.)

This is one example of the Phoenician and possible Greek realization of the Luwian intervocalic dental by dalet/delta. The other Phoenician example which comes to mind is 778 /'dn/ = *Atana*.

The possible Greek example is the Phrygian King Μύδας, which, as suggested by H. T. Bossert (*Jahrbuch für kleinasiatische Forschung* 2 [1953]:328), may go back to HL *mitas* "servent".

U , PONERE_i-*hā* } "and I, Azatiwatas, set them under my feet"
 L PONERE-*hā*

and with the particle *-ta* (possibly having a meaning = Hitt. *kan*) which occurs in XXXIII as *-ta* and in XXXIV as *-ra* (each phrase being extant only in one version). We suggest that the scribes vacillated in the representation of this intervocalic sound (< dental stop) because in this position an allophone had developed which was identical to neither their initial *t* nor *r*. The sound represented intervocallically by both *t* and *r* signs was probably a voiced apico-alveolar flap [ɾ] as in the American pronunciation of "writing" [ʤəˈɾɪŋ], "riding" [ʤəˈɾɪŋ], and "Betty" [bɛɾɪ].

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ADDENDUM

Some time after our completing this article, the thought (we might almost say the hope) occurred to the junior author (GJA) that the assertion made so confidently in footnote 4, concerning Phoenician transcriptions, might be open to further investigation in view of the extreme difficulty of distinguishing between <d> and <r> at most stages of the Phoenico-Hebrew alphabet. We were most fortunate in obtaining the expert opinion of the leading Semitic epigrapher of our time, Prof. Frank M. Cross, Jr., of Harvard University, who wrote us:

I have been able to examine the whole of Text A I-IV (KAI-126) in superb unpublished photographs. I have not had access to Texts B-C. The readings examined are as follows:

' <i>zwd</i>	A I, 1. 16. 20. III, 3. 5. 11. 14. 16. IV, 2 (damaged)
' <i>zwdy</i>	II, 10. 18.
' <i>dn</i>	I, 4. II, 2. 9. 14. 16.

The contrasts between *dalet* and *reš* involve normally three typological features, and the reading *dalet* I regard as certain in all

exemplars examined except 'dn in A II, 16. Here the reading *reš* is possible though the form is not an ideal *reš*.

Although the results are primarily negative and in one case inconclusive, we feel that such a new examination of the Phoenician characters, in view of the Luwian rhotacism phenomenon, had to be undertaken inasmuch as the possibility existed that the Luwian allophone, which we have described, might be graphemically represented in the Phoenician by a *reš*. We are most grateful to Professor Cross for undertaking this investigation on our behalf.

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IMPLICATIONS OF "RHOTACISM IN HIEROGLYPHIC LUWIAN"

ALLAN R. BOMHARD

The intervocalic "rhotacism" of the dental stop in Hieroglyphic Luwian, described in the preceding paper by Arbeitman and Ayala, has important implications for determining the validity of so-called "Sturtevant's Law". As is well known, according to Sturtevant's Law, the intervocalic double writing of stops in Hittite is taken to indicate a phonemic contrast, usually interpreted as voicelessness as opposed to voice, which is indicated by single writing. The Hieroglyphic Luwian writing conventions totally ignore intervocalic double writing of stops. Moreover, the same signs are used regardless of whether there are voiceless or voiced stops in cognates from the non-Anatolian branches of Indo-European. In the examples cited by Arbeitman and Ayala, viz., ablative ending, verbal 3rd sg. ending, and enclitic *-ta*, the evidence from the non-Anatolian branches points to a voiceless dental. As is also well known, the Luwoid Lycian is characterized by the intervocalic voicing of etymologically voiceless stops, and examples can be cited for precisely the ablative ending and the verbal 3rd sg. ending mentioned above. Therefore, we may conclude that this same tendency to voice intervocalic voiceless stops existed in at least Late Hieroglyphic Luwian, and that, since there previously existed no voiced ~ voiceless contrast in the language, this being manifested in the lack of specific signs to indicate voiced stops as distinct from voiceless stops, the Hieroglyphic Luwian scribes chose the closest phonetic equivalent -- the signs for *r* -- to indicate the newly-developed voiced dental. We may take this as another shred of evidence against the theory that there was a voiced ~ voiceless contrast in stops in the older Anatolian languages.

ANAPHORIQUES DU TYPE $\nu\bar{\nu}\nu$ EN HITTITE

FRANÇOISE BADER
Ecole pratique des hautes études

- §1. Hitt. *aši*, *uni*, etc.
- §2. Le pronom *e-*.
- §3. Etymologie de l'anaphorique hittite.
- §4. Le premier élément de hitt. *damai-*, *dapi-*.
- §5. Le second élément de hitt. *damai-*, *dapi-*.

§1. E. Laroche a récemment établi le paradigme de l'anaphorique comme suit¹:

Sg.	m.f.	n.	Plur.	m.f.
nom.	<i>aši</i>			<i>uniuš</i>
acc.	<i>uni</i>	<i>eni</i>		---
dat.		<i>edani</i>		<i>edaš</i>
loc.		<i>edi</i>		
abl.		<i>edez</i>		
adv.		<i>eniššan</i>		

¹E. Laroche, "Anaphore et deixis en anatolien", *Hethitisch und Indogermanisch* (1979), p. 147-52. Pour l'auteur (cf. p. 151), "L'étymologie de ces radicaux *a-/u-/en-* est un problème sans objet. On peut, si l'on veut, rapprocher de chacun d'eux quelque élément isolé du discours (par ex. le lat. *en*); l'identité en est indémontrable".

Ce pronom pose des problèmes de flexion et d'étymologie.

La flexion montre à quel point la déclinaison des pronoms diffère de celle des noms. Nous partirons des cas directs animés (en négligeant le pluriel), particulièrement intéressants en ce qu'ils conjoignent deux procédés archaïques de flexion pronominale.

L'un consiste dans l'emploi de vocalismes différentiels d'un même thème pronominal pour distinguer, à l'animé, le nominatif et l'accusatif, dans les pronoms dits de troisième personne, type *kaš* (vocalisme *-o-)/ *kun* (vocalisme *-u-),² avec, ici, recaractérisation flexionnelle par emploi, à l'origine redondant, de désinences nominales. C'est de cet emploi que relèvent les anaphoriques *a(ši)* et *u(ni)*. L'on y ajoutera le neutre, du type *ke/ki*: *e(ni)*, *i(ni)*. La variation de vocalisme peut, ici, résulter soit d'une opposition de vocalisme, soit d'une variante graphique; mais l'existence du doublet italique *enim*/*inim* (§3) rend plausible la première de ces interprétations. S'il en est ainsi, l'on considérera le vocalisme *-e- comme non marqué (puisqu'il apparaît aussi aux cas directs de l'animé et de l'inanimé), et le vocalisme *-i- comme marque récessive d'un anaphorique initialement indifférent au genre (cf. *im*, §2; *kim*, note 36), ayant servi différenciellement au neutre, au fur et à mesure que se sont développés d'autres vocalismes pour les cas directs correspondants de l'animé.

L'autre consiste dans l'emploi de deux thèmes différentiels,³ ayant ou non le même vocalisme, pour distinguer le nominatif et l'accusatif animés. A la différence du précédent, il est commun aux pronoms personnels (*egō/mē*), et aux pronoms de troisième personne (type **so*/**to*-). De cet emploi relève l'opposition (*a*)*ši*/*(u)**ni*.

Cette flexion ne fait pas place à des désinences nominales; au nominatif sg., les hapax *ašiš*, *eniš*, *uniš* sont des créations secon-

²Voir E. Benveniste, *Hittite et indo-européen* (1962), p. 72.

³Voir E. Laroche, *l.c.*, p. 151, sur "la constitution d'une flexion pronominale sur plusieurs bases hétérogènes".

daïres.⁴ Mais un problème se pose, à l'accusatif, pour le doublet *unin* de *uni*: il peut être une réfection comparable à celle du nominatif, ou bien contenir l'anaphorique correspondant à gr. *ulu* (§3). De plus, alors que les cas directs s'opposent par des jeux de vocalisme et de thèmes, les cas indirects sont formés par addition de particules du thème **de* ou du thème **dhe* au thème de base, ici comme dans d'autres pronoms (§4).

Nous allons essayer de montrer que ces formes d'anaphoriques résultent de l'agglutination à un pronom **H₁e-* (de vocalismes divers) d'anaphoriques, dont l'un, **si*, a un correspondant en celtique et indo-iranien, l'autre, **ni*, en grec; nous leur opposerons pour la flexion, altérée, les anaphoriques comparables à gr. *ulu*, *ulu*, qui figurent au second élément de *damai-*, *dapi-*, respectivement.

§2. Un élément, le premier, est commun aux diverses formes du paradigme de l'anaphorique hittite, le pronom **e-* (bien connu,⁵ cf., e.g., skr. *a-syá*, génitif), qui offre, ici, les vocalismes:

**e-*, au neutre, et aux cas indirects, animés ou inanimés; cf., non fléchi, l'augment⁶;

**i-* (?), au neutre, si ce vocalisme y est authentique; cf., non fléchi, le **-i* "épidéictique"; l'anaphorique gr. *iv*, lat. *im* "eum",⁷ i.ir. *im*, le premier élément de lat. *i-ste* (cf. note 17), ou de lat. *i-lle* (cf. note 46), etc.;

⁴E. Laroche, *l.c.*, p. 148 pour *ašiš*, p. 149 pour *eniš*, et p. 159 pour *uniš*.

⁵J. Pokorny, *Idg. Etym. Wtb.*, p. 281 sq. Nous nous bornons, bien entendu, dans ce qui suit, à ne citer que quelques formes.

⁶Pour l'augment, cf. J. Pokorny, *o.c.*, p. 283; C. Watkins, *Celtica* 6, 1963, p. 15.

⁷Pour *iv*· *αὐτῆς*, *αὐτόν*· *κύριον*, Hsch. (à distinguer de [f] *iv*, crét.; Hes., Pd.), voir P. Chantraine, *D.E.L.G.*, s.u. *iv*, *ē* respectivement; pour v.lat. *im*, Leumann-Hofmann, *Lat. Gramm.* I (1977), p. 467; pour i.ir. *im*, E. Benveniste, *Studi Baltici* 3, p. 124, 126 (l'ancienne forme à brève *im* fournit la base d'une flexion nouvelle: masc. *im-am*, fém. *im-am*).

*o-, au nominatif animé; cf., non fléchies, les particules louv. a- tonique, introducteur d'une phrase autre que la première (= hitt. *nu*), hitt. -a- enclitique "mais"⁸; le sl. *a* "mais" peut offrir la forme à longue *ō correspondante⁹;

*u-, cf., non fléchis, la particule de 3ème p. sg. de l'impératif type hitt. *aru* "qu'il meure"; le préverbe de mouvement hitt. *u-*, si on le rattache à ce thème¹⁰; la particule véd. *u*,¹¹ etc.

Pour des raisons de système, qui mériteraient un plus ample développement, et qui tiennent au fait que les thèmes pronominaux, indiquant des relations, et non des concepts, ont une structure radicale entièrement différente de celle des racines nominales et verbales (thème consonantique, soit avocalique, e.g., *-n, "nasale éphelcystique", soit accompagné d'un vocalisme quelconque, ainsi *ne [ǝ-ve], *no [(nεǝ)-vos], *nu [vu], *na [ǝ-va], etc.),¹² il est probable qu'on a affaire, ici, à un thème *H₁e-,¹³ dont la laryngale a, peut-être, laissé une trace au nominatif du démonstratif éloigné indo-iranien, skr. *asáu*, av. *hau*.

Il a existé, en effet, une séquence formée du pronom *so (nominatif)/*to- (autres cas), suivie d'une particule *u. Cette séquence se

⁸Voir E. Laroche, *Dictionnaire de la langue louvite* (1959), p. 144, pour louv. a-; C. Watkins, "Flexion und Wortbildung", *Akten der V Fachtagung der idg. Gesellschaft*, Regensburg, 1975, p. 375, pour hitt. -a- "mais" non géminant (en regard de -a- "et" géminant, à laryngale initiale [cf. note 20]), avec bibliographie.

⁹Voir A. Vaillant, *Grammaire comparée des langues slaves*, V (1977), §1440, p. 219-20.

¹⁰*u-* "(hier)her" s'oppose à *pe-* "hin". Nous espérons pouvoir montrer ailleurs qu'un certain nombre de préverbes indiquant le mouvement et/ou la position sont des particules pronominales. Voir note 54 pour *eni.

¹¹Pour skr. *u*, voir A. A. MacDonell, *A Vedic Grammar for Students* (1955), et cf. note 14.

¹²Nous nous bornons, ici, à des exemples grecs.

¹³A la suite de Meillet, *Etudes de linguistique et de philologie arméniennes*, p. 25, 35, nous posons l'étymon des pronoms avec vocalisme *e.

trouve, à l'état libre, dans véd. *sá/tá-u*,¹⁴ et figée dans divers pronoms: d'une part, dans le gr. *οἷ-τος*, démonstratif de seconde personne, avec, de plus, le thème **to-* de démonstratif, qui apparaît, en même fonction de démonstratif personnel dans sl. *tv*, lit. *tàs*,¹⁵ arm. *da*, etc.,¹⁶ lat. *iste*¹⁷; d'autre part, dans l'indo-iranien **sau*, av. *hau*, véd. *asáu*, qui offre, de plus, **o-* (comme hitt. *āši*).¹⁸ La diphtongue longue des formes indo-iraniennes (qui a pu subir l'action de la loi d'Osthoff dans le gr. *οἷτος*) peut s'expliquer par la fusion préhistorique de **so* + une particule à vocalisme **u* d'un thème en laryngale.¹⁹ Mais on ne peut savoir si cette dernière appartient à un éventuel thème **H₁e-* à vocalisme **u* (comme dans *uni*), ou à un thème **H₂e-*,²⁰ ou **H₃e-*,

¹⁴Voir J. S. Klein, *The Particule u in the Rigveda*, 1978, notamment p. 48-76.

¹⁵Voir A. Vaillant, *Gramm. comp.* II (1958), §231, p. 379.

¹⁶Voir A. Meillet, *Études...arméniennes*, p. 5-30, sur les démonstratifs personnels de l'arménien, en particulier pour le démonstratif de seconde personne, seul (*da*, anaphorique; *-d*, article personnel), ou agglutiné (*doyn*, pronom d'identité; etc.).

¹⁷Lat. *iste* comprend *i* (thème **H₁e*, de vocalisme *i*), non fléchi + une agglutination **s-te*, qu'offrent, en d'autres fonctions, hitt. *na-šta* "und dann" (et [*a*]šta, de fonction inconnue: voir J. Friedrich, *Heth. Elementarbuch* [1960], §301); v.pr. *ste* (e.g., *ste mijlīs* "desto lieber"), *stu* (e.g., *stu ilgimi* "bis das"), sur lesquels voir Chr. S. Stang, *Vgl. Gramm. d. Balt. Sprachen* (1966), p. 177; la structure de l'agglutination **ste* est la même que celle de *σ-φε*, du réfléchi **s-we*, de la particule hitt. et véd. (*-sma*, etc.).

¹⁸Voir J. S. Klein, "The I.Ir. Prehistory of the Skt. *asáu/amūm* Pronoun", *JIES* 5, 1977, p. 161-76, qui renvoie à Brugmann, *Grundriss* II²/2, pour l'attribution à un héritage de paradigmes pronominaux issus de **so* + **u* comme i.ir. **sau* (masc., fém.), gr. *οἷτος*, *αἷτη*, *τοῖτο*. L'on soulignera l'identité de la place de l'accent dans *sá u*, *asáu*, *οἷτος*.

¹⁹Tedesco, *Language* 23, 1947, p. 118, pose, pour expliquer la diphtongue longue une particule **au* (et non **u*), que pourrait aussi présenter, d'après lui, le gr. **ῶτος*, avec **ōu* < **oau*. Sur **au*, cf. note 20.

²⁰Il existe un thème pronominal à laryngale dans le louv. *-ha* (voir E. Laroche, *D.L.L.*, p. 37), dont on rapproche le hitt. *-a* géminant (cf. note 8). La laryngale y est ambiguë: **H₂ ?*, **H₃ ?* Si l'on en rapprochait des formes comme, e.g., gr. *αἷ*, *ἄν*, *αἷ* (**H₂e* + particules **u*, **n*, **i*), c'est la première hypothèse qui serait à retenir.

de même vocalisme, comme dans le hitt. *e-hu*. L'on explique en général cette interjection "viens" comme impératif de **eġ-* "aller",²¹ mais elle pourrait résulter d'une agglutination de deux particules, **e-* (comme dans *eni*) + **Hu-*, cf. le type gr. *δεῦρο*,²² lat. *cedo* "donne, apporte, amène; dis", qui ont en commun une particule du thème **de*²³: l'on a là des adverbes de mouvement appartenant au système de la deixis.

§3. Comme second élément des formes de l'anaphorique hittite (*a-ši*, *u-ni*, *e-ni*, *e-di*),²⁴ agglutiné à une forme de vocalisme divers de **H₁e-*, l'on trouve:

- a. *si*, thème différentiel de nominatif, à vocalisme **i* comme dans le paléophryg. *si*,²⁵ et non **-o-*, comme dans **so* (gr. *ὄ*, skr. *sá*, etc.);

²¹Pour hitt. *e-hu*, K. Eichner, *M.S.S.* 31, 1973, p. 55, pose **H₁ei-H₂au*, avec (p. 76) **ei* > **e*.

²²*Δεῦρο* résulte d'une agglutination de **de* + **u* (qui présente la même ambiguïté étymologique que véd. *u*) + une forme à vocalisme **o* du thème pronominal **re* (qui donne au latin un préverbe de mouvement **re[d]-*); ce pronom présente tous les vocalismes possible en grec (cf. **le*, note 46): *δεῦρε*, *δευρί*, *δεῦρυ*, *πέδευρα* (qui amène à se demander si *πεδά* [= **μετά*] est réellement tiré du nom du "pied", ou ne résulte pas, plutôt, d'une agglutination pronominale, à premier élément **pe*). La forme avocalique du pronom (cf., e.g., **-n* "éphelcystique", **i* "épi-déictique") a connu une grande fortune comme particule marquant le présent moyen (type lat. *-tu-r*).

²³Rapprochement entre *cedo* et *δεῦρο* fait par M. Niedermann, *I.A.* 18, 75 sq., suivi par J. Wackernagel, *Vorlesungen* I, p. 71. D'autres y ont vu un impératif de **dō-* "donner": le problème est donc le même que pour *eġu*. Voir Ernout-Meillet, *s.u. cedo*, avec bibliographie.

²⁴Autre analyse chez E. Laroche, *l.c.*, p. 151: *aš-(i)*, *un-(i)*, *en-(i)*.

²⁵Sur le paléophrygien *si* "hoc", voir Cl. Brixhe, *Verbum* 1978/2, p. 15. Il est inutile de poser, avec l'auteur, un **sid*: la particule **-d*, souvent employée au neutre, n'a rien de nécessaire: le neutre peut avoir une forme nue, comme l'animé lui-même (types *ni*, *ini*), ou une autre particule, non différentielle, puisque la forme animée est identique (cf. v.irl. *sín*, note 28; gr. *νυν*, note 29).

- b. *ni*,²⁶ identique pour l'accusatif animé et le neutre²⁷ (qui s'opposent, l'un à l'autre, par des vocalismes différentiels, **u-*, de l'accusatif animé, et **i-*, du neutre);
- c. **d(h)e*, **d(h)o*, **d(h)i* aux cas indirects, agglutiné, éventuellement, à d'autres particules, ainsi **ni* au datif *edani*.

Les thèmes **si* et **ni* sont des anaphoriques: on les trouve, avec une nasale qui est une particule ("nasale épheleystique"), l'un dans le celt. *sin* (postposé à la particule **so* dans le gaul. *so-sin*; préposé à **de* dans le gall. *hyn* [v.gall. *hinn*], et, peut-être, dans le v.irl. *sin*), et dans l'indo-iranien, skr. *sīm*, av. *hīm*, v.p. *šīm*,²⁸

²⁶La particule **ni* apparaît, entre autres, à la lère p. sg. du subjonctif védique, type (*ayā-*)*ni* "que j'aïlle", et en phrygien *νν* (voir Cl. Brixhe, *Verbum* I/1, 1978, p. 20).

²⁷Outre *eniššan*, l'on a (cf. E. Laroche, *l.c.*, p. 152, n. 12) *abeniššan*, et *kiniššan*, qui offre une séquence initiale (pronoms **ke* + **ne*) proche de celle du gr. *κεῖνος* (**ke* + **e-no-*).

²⁸Sur le gaul. *sosin*, voir Thurneysen, *A Grammar of Old Irish* (1966), p. 304, et J. Vendryes, *Lexique étymologique de l'irlandais ancien*, S-155, s.u. *so* (particule démonstrative "-ci, ceci" [formellement identique à la particule de protase véd. *sa*, employée devant une relative précédant la principale, ainsi qu'à la forme qui a donné le nominatif ô, skr. *sa*]). Malgré les dictionnaires étymologiques (voir J. Vendryes, *l.c.*, S-111), gaul. *so-sin* pourrait contenir, agglutiné à *so-*, un anaphorique **sin*, du type *din*, *νν*, etc.; cet anaphorique a pu être agglutiné à **de* dans le v.irl. *sin*, le gall. *hyn* (v.gall. *hinn*), puisque ce dernier semble avoir *-nn-* venant de *-nd-*, et qu'en irlandais, la réduction de *-nd-* > *-nn-* > *-n* a pu se produire en position enclitique: l'on posera alors **sin-de* (à côté de *so-sin*). Les fonctions de v.irl. *sin*, adverbe de lieu (*cotail-siu sin* "dors-là"), sorte de démonstratif non fléchi après un substantif de genre quelconque (e.g., *an atrab sin* "ce séjour-ci"), ou pronom neutre accentué après préposition (*a sin* "de cela"), l'indifférence au genre du démonstratif gall. *hyn*, singulier neutre et pluriel des trois genres, sont autant d'indices en faveur d'une interprétation par un anaphorique du type *din*. L'on rapprochera alors de celt. *sin(de)*, (*so-*)*sin*, les formes indo-iraniennes skr. *sīm*, particule invariable, av. *hīm*, *hē*, *hīš*, acc. sg., duel, pluriel, respectivement, des trois genres (voir H. Reichelt, *Awest. Elem.*, §398, 577; E. Benveniste, *Studi Baltici*, p. 122-23), avec une longue venant du féminin (E. Benveniste, *l.c.*, p. 126), cf. irl. *sī*, got. *sī*, v.h.a. *sī*, gr. *ῑ*, v.p. *šīm*, enclitique (Brandenstein-Mayrhofer, *Hb. d. Altp.*, p. 143).

l'autre, dans le gr. $\nu\lambda\nu$.²⁹ En l'absence d'une étymologie concluante pour le locatif *edi* (**e* + **dhi* ou **di* ?), l'on ne peut dire s'il convient de rapprocher de ce dernier les formes adverbiales du grec en $-\theta\iota$,³⁰ ou les formes d'anaphorique en *di-* du vieux prussien (*din*, etc.), et de démonstratif enclitique de l'iranien³¹ (av. *dim*; v.p. $-\dim$ sg., sur lequel est refait un pluriel $-\diš$, ces formes étant initialement indifférentes non seulement au genre, mais au nombre³²).

Certaines des formes de l'anaphorique hittite ont des correspondants soit dans d'autres langues, soit, en hittite même, hors du paradigme cité:

1. De **eni*, l'on rapprochera lat. *enim*, qui a une nasale de même type que celt. *sin*, gr. $\nu\lambda\nu$, v.pr. *din*, gr. $\mu\lambda\nu$, $\iota\nu$, (φ) $\lambda\nu$, $\phi\lambda\nu$, hitt. $-\pi in$ (§4); et de *ini* (si le vocalisme *i-* en est authentique), osq. et péh. *inim* "et", avec même nasale finale³³;

²⁹Gr. $\nu\lambda\nu$ (voir P. Chantraine, *D.E.L.G.*, s.u. $\mu\lambda\nu$ [sic]) est dorien: il est indifférent au genre et au nombre: il est neutre, e.g., Soph., *Tr.*, 145, etc.; pluriel "αὐτοῦς", B.8.15, etc.; αὐτάς, Eur., *Ba.*, 32, etc.; αὐτά, Soph., *El.*, 436, etc. Le fait que $-\nu$ soit, dans ces pronoms, une particule, et non une désinence d'accusatif, ressort d'emplois comme, pour $\mu\lambda\nu$, la fonction dative de la formule A 201, etc., καὶ $\mu\lambda\nu$ φωνήσας ἔπεα πτερδόντα προσηύδα.

³⁰Sur $-\theta\iota$, voir M. Lejeune, *Les adverbies grecs en -θεν* (1939), p. 187-209 pour le type οἴκοθεν; 258-85 pour le type πόθεν; 285-90 pour l'étymologie.

³¹Voir E. Benveniste, "L'anaphorique prussien *din* et le système des démonstratifs indo-européens", *Studi Baltici* 3, 1933, p. 121-30; et, pour les formes iraniennes, Brandenstein-Mayrhofer, *Handbuch des Altpersischen* (1964), p. 116.

³²Le thème **de* a de toutes façons joué un rôle dans la flexion pronominale, puisque, sous sa forme avocalique, il a fourni la particule * $-d$ du neutre, de pronoms comme **mē-d* et **sē-d* (et cf., dans la flexion nominale, l'ablatif en * $-ō-d$; le latif grec en $-\delta\epsilon$; etc.).

³³Nous laissons de côté les formes apparentées, et qui présentent un autre vocalisme soit du premier soit du second élément, et, à la finale, une particule tantôt * $-m$, tantôt * $-k$ (parfois conjointes); ombr. *e-no-m* "tum", ainsi que E-NU-K, I-NU-K, I-NU-M-K, I-NU-ME-K, E-NU-ME-K; et cf. péh. *inom* "et", à côté de *inim*.

2. De *ašī*, l'on rapprochera d'une part skr. *asáu* qui a, de plus, une particule **u* (cf. §2),³⁴ et sans cette particule, ombr. URU, *uru* < **ō-so* "illo"³⁵;
3. L'on ajoutera, ici, le premier élément du juxtaposé hitt. *ani-šiwat* "ce jour", qui ne figure pas dans la flexion de l'anaphorique, parce que c'est la forme à thème différentiel de nominatif (a)*šī* qui y est employée; mais, avec vocalisme **o-* de nominatif, *ani-* est de la même famille que *uni*, *eni*, (*ini*).³⁶

En d'autres termes, l'anaphorique hittite se laisse rapprocher soit d'adverbes comme *enim* qui ont une fonction comparable dans l'énoncé (cf. §4), soit de démonstratifs, avec lesquels le pronom de rappel est en rapport dans le système deixis/anaphore.³⁷

§4. Ce type de flexion pronominale archaïque a tendu à entrer en collusion avec la flexion nominale. Nous en prendrons, ici, deux

³⁴Selon Tedesco, *Language* 23, 1947, la différence entre les nominatifs skr. *asáu* et av. *hau* viendrait du fait que l'initiale de skr. *asáu* aurait été introduite à partir du reste du paradigme, ce que semblent infirmer les rapprochements ici proposés.

³⁵Pour C. D. Buck, *A Grammar of Oscan and Umbrian* (1928), §197.2, l'on ne connaît pas de formes apparentées à l'ombr. URU, *uru* (qui pourrait venir de **oro-*, **oso-*, ou de **oiso-*).

³⁶Hitt. *ani-* (à distinguer de *anni-/anna-* "früher, olim", que nous rapprocherons ailleurs de lat. *annus* [< **at-no-*, cf. got. *apnam*], etc., et à rattacher au démonstratif éloigné v.sl. *ono*, lit. *ais*) a, comme premier élément, un anaphorique, comme la forme à vocalisme **i-* de **ke*, qui figure au premier élément des juxtaposés temporels gr. *σήμερον* (**ky-āmeron*), alb. *si-vjët* "cette année" (H. Pedersen, *KZ* 36, p. 336); cet anaphorique est conservé au neutre hitt. *ki*, à côté de l'animé *ka* (cf. §1). La forme à nasale correspondante a donné au sanskrit *kim* (interrogatif), *kīm* (cf. E. Benveniste, *Studi Baltici* 3, p. 126, 128).

³⁷Sur le système anaphore/deixis, voir, en dernier lieu, E. Laroche, *l.c.*, p. 147-48, et notre étude sur "Lat. *nempe*, *porceō* et les fonctions des particules pronominales", *BSL* 68, 1973, p. 27-75, inspirée, sur ce point, par l'article des *Studi Baltici* d'E. Benveniste.

exemples: *damai-* "autre", et *dapi-* "ganz, jeder, all", qui nous retiendront d'abord, pour leur premier élément, que nous rattacherons à l'une des formes du nom de nombre "deux".

L'étude des noms de nombre "un" et "deux" que nous avons menée naguère³⁸ a montré que ceux-ci n'avaient pas d'expression unique en indo-européen. Ce qui est hérité, c'est, d'une part, l'expression par un signifiant flexionnel, le duel, d'une dualité donnée par la *nature* (type $\pi\acute{o}\delta\text{-}\epsilon$ "les deux pieds"), et dont chaque élément n'a de sens qu'en couple, par rapport à l'autre, si bien que la mention d'un seul, au duel, suffit à indiquer l'existence de l'autre (type *pitárā* "père et mère", duel "elliptique").³⁹ L'importance de cette notion de couple est telle que "trois", **tri-*, dérivé en **-i-* de la racine **ter-*,⁴⁰ est désigné comme "dépassant (la paire)". D'autre part, chacun des éléments qui forment celle-ci,⁴¹ "un", "deux", n'a reçu d'expression individuelle qu'au terme d'un développement *culturel* supposant un degré assez poussé d'abstraction (cf. notre "zéro").

Par cette expression, il continue à faire partie d'un couple, puisqu'il indique une relation d'altérité: "un" est en rapport étymologique avec des expressions de l'"identité" et de l'"ipséité" (type **sem-* [gr. $\epsilon\acute{\iota}\varsigma$, etc.],⁴² et **somo-* [gr. $\acute{o}\mu\acute{o}\varsigma$, etc.]); "deux"

³⁸*Verbum*, II/2 (1979), 137-52.

³⁹Exemples védiques de duels elliptiques chez L. Renou, *Grammaire de la langue védique* (1952), §167, p. 124. Pour J. Haudry, *L'indo-européen* (1979), p. 37, l'emploi premier du duel serait l'emploi elliptique.

⁴⁰Sur l'étymologie de **tri-* par la racine **ter-*, voir E. Benveniste, *Hittite et indo-européen* (1962), p. 87.

⁴¹Voir J. Gonda, *Reflections on the Numerals "one" and "two" in Ancient I.E. Languages* (1953), p. 5-6, pour la dualité. L'auteur cite M. Leenhardt (*Langues et dialectes de l'Austro-Mélanésie* [1946], p. XXIV) pour qui la parité constitue l'unité, et renvoi à Lévy-Bruhl pour le concept de "dualité-unité".

⁴²Le caractère pronominal de cette forme est net en arménien, où *mí* est non seulement le nom de nombre "un", mais l'article "un", enclitique en général, et postposé au nom (voir A. Meillet, *Etudes...arméniennes*, p. 30): cette variation accentuelle est caractéristique de la classe des pronoms.

avec des expressions de la "séparation (d'avec l'autre)", et de la "réunion (de l'un et de l'autre)": de la première de ces désignations relève l'emploi des thèmes **we*, **wi*, **wo* (lat. *uīgintī*; gaul. *Vo-corio-*; etc.), ainsi que **de*, **di*, **do* (gr. $\delta\upsilon-$; hitt. *da-*; etc.), les deux étant agglutinés dans **dwi-*, **dwo-* (skr. *dvi-*; gr. $\delta\upsilon\omicron$; etc.); est du ressort de la seconde l'emploi du thème **bhe*, **bhi*, **bho*, seul (type got. *bai*), ou agglutiné (types v.h.a. *bei-de*; skr. *u-bhāu*; lat. *ambō*; etc.). C'est la relation d'altérité qui fait que "un" et "deux" ont eu, ainsi que nous avons essayé de le montrer, des significants pronominaux. C'est elle, aussi, qui nous amène à y rattacher *damai-* "autre",⁴³ et *dapi-* "tout", qui agglutinent à *da-* l'un le pronom **me* qu'offre sous sa forme **se-m-*, le nom de nombre "un", l'autre le pronom **bhe*, qui figure dans les formes de "deux" qui indiquent la réunion.⁴⁴

§5. Nous examinerons, pour finir, la flexion de *damai-* et de *dapi-*,⁴⁵ qui diffèrent l'une de l'autre en ce que l'anaphorique (**mi*, cf. $\mu\lambda\nu$ [note 29]; **bhi*, cf. $\phi\lambda\nu$, ci-dessous) y a été altéré en s'incorporant à une flexion qui tend à se rapprocher de celle des noms, selon plusieurs voies: emploi de désinences nominales, comme celles de nominatif **-s* et d'accusatif **-m* (cf. *kaš/kun*, ainsi que *eniš*, etc., §1), naturellement, mais aussi influence, aux cas directs, de la flexion des thèmes en **-i-*, dans le cas de *damai-*, et thématisation, dans celui de *dapiya-*.

Dans *tamai-*, **do-* s'agglutine à des formes de **me* à vocalismes divers:

⁴³*damai-* a été mis en rapport avec gr. $\delta\eta\mu\omicron\varsigma$ (dor. $\delta\alpha\mu\omicron\varsigma$) par H. Pedersen, *Hittitisch und die anderen indogermanischen Sprachen* (1938), §48, p. 51-4.

⁴⁴En hittite, **bhe* apparaît par ailleurs agglutiné à **o-* dans *apaš* "ille".

⁴⁵Pour les formes, voir J. Friedrich, *Hethitisches Elementarbuch* (1960), §127, p. 70.

	<i>*mi</i>	<i>*me</i>	<i>*mo</i>	<i>*mu</i> (?)
Sg. Nom. c.	<i>damaiš</i>			
Acc. c.	<i>damain</i>			
N.A. nt.	<i>tamai</i>			
Gén.		<i>dammel</i>		
D.Loc.		<i>damedani</i>		
D. anc.		<i>tameda</i>	<i>tamatta</i>	
Abl.		<i>tamedaz</i>		
Pl. N.A. c.				<i>dammauš</i>
N.A. nt.	<i>tamai</i>			
Gén.		<i>damedaš</i>		

Cette flexion a des traits pronominaux: d'une part, elle fait jouer plusieurs vocalismes du même thème, mais hors des cas directs passés à la flexion nominale au singulier où, comme dans le paradigme de l'anaphorique, la forme à vocalisme **e* (**me*) apparaît aux cas obliques; d'autre part, elle met en œuvre, au moins aux cas non directs, non des désinences, mais des particules: ainsi, au génitif, pronominal, en **-l*, particule du thème **le*,⁴⁶ au datif ancien *tamatta*, formé à l'aide d'une

⁴⁶Comme **re* (cf. note 22), **le* est bien attesté en grec avec divers vocalismes, agglutiné à **tā*, notamment (mais non seulement) dans l'onomastique qui présente: **le* dans Τηλέ-(μαχος) (cf. l'adverbe τῆλε "loin (de)"; **li* dans Τηλύ-(μαχος); **lo* dans Τηλο-(κλής); **lu* dans Τηλυ-(κράτης). Les langues baltiques offrent des agglutinations comparables: lit. *tolì* "weit, fern, in der Ferne" (rapproché de τῆλε par O. Szemerényi, *St. Myc.* 1, 1966, p. 141-42), lett. *tālu* "weit, fern" (voir E. Fraenkel, *Litauisches etymologisches Wörterbuch*, II [1965], p. 1105). L'on est naturellement tenté, dans ces conditions, de rapprocher le type lat. *tālis*, gr. Τηλύκος (voir P. Chantraine, *D.E.L.G.*, s.u., avec bibliographie), en rappelant que le "suffixe" **-ko-* peut, dans certains cas au moins, être d'origine pronominale (bibliographie chez Wackernagel-Debrunner, *Aind. Gramm.* II/2 [1954], p. 540). Le pronom peut s'agglutiner à d'autres formes que **tā-*: cf. Lat. *ō-līm*; ombr. ULU, *ulo* "illo, illuc" < **ōlo-* (C. D. Buck, *Gramm. of Oscan and Umbrian* [1928], §197.3); lat. *sō-lus* "seul", qui appartient au champ sémantique de l'altérité, tandis que *ōlīm* "à ce moment là, une fois"

particule **-to*,⁴⁷ et aux autres cas obliques, qui font apparaître que l'emploi de **d(h)e* n'est pas propre à l'anaphorique; par ailleurs, l'on y voit employée une finale propre à la flexion pronominale, au cas direct pluriel, *dammauš*, pour lequel on peut songer à poser un thème **mi*, donc à rapprocher le véd. (acc.) *amúm*, sans que cela soit sûr, puisque *-uš* a, ici, la même fonction casuelle que dans les autres pronoms.

Mais les cas directs du singulier ont subi l'influence des thèmes nominaux en **-i-*, à deux égards; l'animé a pris les désinences nominales **-s* et **-m*; et surtout, la forme **mi* (qui subsiste, en valeur d'anaphorique, dans le gr. *ulu*) a été supplantée, en valeur marquée d'altérité (cf. note 54), par une forme ayant le degré plein des noms en **-i-*, type *zahhai-* "combat" (nom. *zahhaiš*, acc. *zahhain* et *zahhîn*, gén. *zahhiyaš*, etc.), ou, neutre, *haštai* (gén. *haštiyaš*) "os".⁴⁸

Ce sont d'autres réfections qu'offre l'autre paradigme (partiellement attesté), qui agglutine **do-* et **bhi*:

	Sg.	Plur.
N.A. nt.	<i>dapin, dapiyan</i>	
Gén.	<i>dapiyaš</i>	<i>dapidaš</i>
D.Loc.	<i>dapi</i>	<i>dapiaš</i>

Ici, l'incorporation de la forme à vocalisme **-i-* se fait, non par

a un emploi temporel (cf. note 54). C'est la forme avocalique du pronom qu'offrent le génitif pronominal hittite, ainsi que des formes comme lat. *ille* "celui-là; cela; lui, elle" < **H₁i-l-ne*, les pronoms d'ipséité got. *silba*, v.h.a. *der selbselbo*, vén. (avec même reduplication expressive que ce dernier, mais forme **swe*, non **se*, du réfléchi) SSELBOISSELBOI (voir M. Lejeune, *Manuel de la langue vénète* [1974], p. 338) < **s(w)e-l-bho-*, cf. la particule d'ipséité hittite du type *ukel/ukila* "moi-même" (J. Friedrich, *Heth. Elementarbuch* [1960], §99); etc.

⁴⁷Ce **-to* pourrait être apparenté à la forme, à particule **-s*, qui figure dans le type gr. *ἐντός*, lat. *intus*, etc. (voir Leumann-Hofmann, *Lat. Gram.* I, p. 500-1, avec bibliographie); pour le vocalisme **-o-* d'une particule flexionnelle, cf. **bho* (e.g., lat. *-bus*, avec particule **-s*); **so* (v.sl. *česo*); etc.

⁴⁸J. Friedrich, *Heth. Elementarbuch* (1960), §69.

développement d'un degré plein, comme dans *damai-*, mais par thématisation de la forme en **-i-*, d'où *dapiyan*,⁴⁹ et le génitif *dapiyaš*, selon un procédé qu'offre aussi *uniyaš*⁵⁰ et qui est connu ailleurs: cf. gr. *τόσος* (< **τότλ-ος*) "si grand", en regard de lat. *tot*, *totidem*, skr. *táti*; et, à côté d'anaphoriques, gaul. *suide* < **so-dio* (cf. v.pr. *dim*), *so-sio* (cf. celt. *sin*). C'est un rapport comparable à celui qu'offrent gaul. (*so-*)*sin* et (*so-*)*sio* qu'on observe entre hitt. (*da-*)*pin* et (*da-*)*piya-*: *-pin* (dont la forme à nasale est, on le soulignera, neutre) est identique à gr. *φιν*,⁵² donc du même type que *dim*, *sin* (gaul. *so-sin*), *μιν* (phryg. *σε-μιν*⁵³), *νιν*, *φιν*, *ιν*. De plus, *dapi* est à *dapin* ce que *-φλ* est à *-φιν*, (*a-*)*ši* à *šin*, (*u-*, *e-*)*ni* à *νιν*, *ki* à *kim*, etc. Ces anaphoriques ont pu être conservés dans des particules adverbialisées du type de lat. *enim*, osq. et pél. *inim*, qui ont elles-mêmes, dans le déroulement de l'énoncé, une fonction anaphorique de renvoi à ce qui a été dit, comme *eni*,⁵⁴ *ini*, et les autres formes anaphoriques ici étudiées.

⁴⁹Pour Friedrich (*Heth. Elementarbuch*, §14a, p. 27), *-in* < *-iyan*.

⁵⁰Voir E. Laroche, *l.c.*, p. 150.

⁵¹Voir R. Thurneysen, *A Grammar of Old Irish*, p. 304, pour *su(i)de* < **sodio-*, et pour *sosio*.

⁵²En grec (*-*)*φιν*(*ν*) est non seulement désinence de cas oblique pluriel, mais, isolément, le datif d'un pronom de 3ème p. sg., *φιν* (laccien, Emp., Call.), à côté de *σ-φιν* (lesb., hom., ion., dor., etc.); voir E. Schwyzler, *Griechische Grammatik* I (1953), p. 603.

⁵³Le phryg. *σεμιν*, datif masculin-neutre (à côté de *σεμου[ν]*, *σεμουν*: voir Cl. Brixhe, *Verbum* [1978/2], p. 15-6, pour les formes, et pour l'emploi, p. 17), par cet emploi casuel, est semblable, entre autres, à l'anaphorique *μιν* (cf. note 29). Nous ignorons si *σεου(ν)*, *σεμων*, en sont des variantes graphiques, s'expliquant par les flottements entre *ν/ν* d'une part, *ου/ν*, d'autre part (voir Cl. Brixhe, *Verbum* [1978/1], p. 17), ou bien sont issus d'un **se-mo-* à côté de **se-mi-*; la fonction de datif rend la première hypothèse plus plausible.

⁵⁴L'adverbe local **eni* "dans" (J. Pokorny, *Indogermanisches etymologisches Wörterbuch* I [1959], p. 311) représente la même forme, mais dans un autre emploi. C'est pourquoi nous le laissons de côté: cet emploi pose le problème de la définition des pronoms, pour nous indices de relation qui, en emploi sémantiquement marqué, portent référence à

la situation du locateur dans le monde, c'est-à-dire dans l'espace (type $\epsilon\nu$ "dans"), le temps ($\epsilon\nu\eta$ "surlendemain", $\delta\lambda\acute{\iota}m$ "jadis"), et par rapport à l'autre (ainsi, *damai-*, v.sl. *inv*, lat. *sōlus*), deux de ces emplois pouvant se combiner (par exemple dans gr. $\epsilon\nu\iota-\alpha\upsilon\tau\acute{o}\varsigma$ "anniversaire; cycle temporel", mot-à-mot "l'un et l'autre [$\epsilon\nu\iota-$], identiques [$\alpha\upsilon\tau\acute{o}\varsigma$]"), expression pronominale de la temporalité avec un sème d'altérité. Le **ni* qui apparaît dans certaines des formes d'anaphoriques ici étudiées, indique, par ailleurs, un mouvement et une position ("nieder": cf. J. Pokorny, *Idg. Etym. Wtb.*, p. 312), et une relation d'altérité, par exemple dans le nom du "parent" got. *nīpjis*, ou dans le nom de peuple celt. *Nitio-broges*, opposé à *Allo-broges*. Nous avons laissé de côté, ici, l'emploi flexionnel, aux cas obliques pluriel, des particules étudiées comme anaphoriques: $-\sigma\iota(\nu)$ en valeur spatio-temporelle (locatif); $-\phi\iota(\nu)$, dans le champs sémantique de l'espace et du temps (locatif), également, mais aussi dans celui de l'altérité (comitatif, d'où est issu l'instrumental); $-\mu\iota(\nu)$, au datif des pronoms personnels du type éol. $\alpha\mu\mu\iota(\nu)$ (le datif appartient au domaine de l'altérité en tant qu'il indique l'intérêt, et à celui de l'espace-temps dans la mesure où il indique la direction).

INTERVOCALIC LARYNGEAL IN GATHA-AVESTAN*

R. S. P. BEEKES
Rijksuniversiteit te Leiden

0. Even though the instances of hiatus caused by laryngeals in Gathic have been collected by Monna (1978:97f), there is reason to return to the subject. Apart perhaps from Hittite, there is no language where traces of the Proto-Indo-European laryngeals are so clear as in Gathic, and here we have the problem that the expected hiatus is not found.

We must distinguish between laryngeal after *i*, *u* and after *a*. Laryngeal in anlaut may be discussed first (the reader should consult the chart at the end of this paper).

1. Laryngeal in Anlaut:

1.1. *Augment*: Gathic has only very few augmented forms. In fact, only if (in 31.9a) *as* (twice) must be read /a'as/ (so that 6 - 8 becomes 7 - 9; cf. 3.7.1) would we have a relevant form.

1.2. *Reduplication*: I have previously tried to demonstrate (cf. Beekes 1979a) that *uzireidyāi* had four syllables (i.e., *uzi'ṛdyāi*) and that *rārešya-*, *rāreša-* (also *ṣ*, never *ś*) had three (i.e., *rā'ṛšya-*, *rā'ṛša-*). The first word, cognate with Gk. ὄρνυμι, had *h*₃, and the

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second, if cognate with Gk. ἀρνέομαι, h_2 .

1.3. *Compounds*: The compounds have hiatus when two vowels meet. We must determine whether or not the second element had an initial laryngeal. A list is given by Monna (1978:97f):

1. *ašā.aojaṇhō*, *ašaoxšayantā*: $*h_2eug-$.
 2. *ciθrā.avanhəm*: both Gk. ἐνῆς and Lat. *avēre* would point to h_2 , but both connections are doubtful.
 3. *dējāmāspa-*, *vištāspa-*: $*ekwos$, which may or may not have had h_1 .
 4. *dərəštā.aēnaṇhəm*, *pouru.aēnā*: no certain evidence (cf. Mayrhofer III 656 s.v. *ēnaḥ*).
 5. *fərašaoštra-*: *uštra-*, uncertain.
 6. *fraēštāṇhō*, *zastāišta-*: if cognate with Skt. *īṣate* "hastens", *i-* might derive from $*Hi-Hs-$.
 7. *fraoxtā*, *hizvā.uθāiš*, *xšmā.uθāiš*: *uc-*, *vac-*, which has no laryngeal (Gk. ἔπος).
 8. *hvanhəvīm*, *parāhīm*: *ahu-* "life", uncertain (perhaps from *as-* "to be"; probably $*h_1es-$).
 9. *hvāpā* /*hu'āpah-*/: Lat. *opus*; h_3 .
 10. *paityāstīm*: uncertain.
 11. *θβā.īštiš*: uncertain.
 12. $x^v aēta-$: uncertain. (/ *hu'ā'ita-*/ would have given $*x^v āita-$).
 13. $x^v araiθya-$: *ārtha-*; if cognate with *ṛcchāti*, h_1 .
 14. $x^v āθra-$: uncertain.
 15. $x^v āθrōyā$: uncertain.
 16. $x^v īti-$: *i-* "to go", uncertain.
- (*hvarštāiš* /*hu-varštāiš*/ is not relevant; *paitī.əṛəṭē* is not a nominal compound.)

There are only three relatively certain instances: two positive ($*h_3ep-$ and $*h_2eug-$) and one negative (*uc-*). This is to be expected since it is very difficult to demonstrate initial laryngeal.

Many scholars think that every Proto-Indo-European root started with a consonant. However, I think that in a few cases it can be

shown that there was no laryngeal (cf. Beekes 1974). Here we found one form without laryngeal, but it is probable that the large majority had one. We can assume that the hiatus in compounds spread analogically to the few cases where there was no laryngeal.

However, a number of these forms might have hiatus according to the rule, known from Vedic, that hiatus was maintained when the second vowel was followed by two consonants (AiGr. I 315). This would apply to 1b, 3ab, 5, 6ab, 7abc, 10, 11, 13, 15. This would explain the three forms that have no laryngeal (7). However, this principle is not sufficient to explain the whole phenomenon.

A problem is presented by *darəgāyu-* 28.6a. It contains **h₂oyu-*, but it has no hiatus. Kuiper (1978:25) hesitatingly accepts loss of the laryngeal in compounds. However, this would leave the phenomenon as a whole without explanation. Also, we saw that laryngeal in anlaut was retained even where it would have disappeared phonetically (as we shall see). If this word is a Proto-Indo-European formation, it could have been **d₁h₂gho-h₂yu-*. Also hiatus, giving a 7 - 10 verse, cannot be entirely excluded as there are a number of verses where 7 - 10 cannot easily be reduced (29.1c.4c, 30.4c.8c, 32.6a, 33.4b, 34.8a.11c).

2. The Sequences *iH-V* and *uH-V*:

2.1. It seems that in the sequences *iH*, *uH* plus vowel, *i* and *u* remained syllabic everywhere, with the following exceptions:

In 44.10d, *daidyat₂*, 3rd sg. pres. of *dā-* "to see", must be disyllabic. The explanation may be loss of laryngeal as found in compounds (cf. Kuiper 1961).

For *hizvā-* 47.2b, 51.3b, cf. Kuiper 1978:12-6.

Another exception is *x^vənvat₂* 53.4c. The metre of Y 53 gives many difficulties, but the middle part of 7/8-7/6 - 5 is never 8. This may be due to the fact that Y53 is younger than the others, but, then, we must accept that many instances of hiatus have been preserved here as archaisms. In 33.2b, the form could also be disyllabic. Therefore,

Kuiper (1978:25) suggests loss of laryngeal in a derivative.

aojyaēšū 46.12b. *aojya-* is generally considered a gerundive, so we expect *-iya-*. This would give 4 - 8, of which Monna (1978:113-5) allows only five instances (one as certain, four as possible). *-iya-* would also be expected according to Sievers' Law.

For the accusative singular of the *ī*-stems, cf. 2.4.

2.2. *The Genitive Dual*: Of the categories presenting syllabic *i* and *u*, only the genitive dual will be discussed here. *Ahvā*, and *main-yvā* 30.5a (the manuscript readings *iīuu* [S₁; and H₁, which represents an independent tradition], *iūu*, *uu* [with *i*-epenthesis], *ii* suggest that *iīuu* was the original reading; *manauūā* Mf₁, Pd may have *α* for *ii* ["for"]) must be trisyllabic. This means that the ending was probably **-Hās*, giving **ahūHās*, **manyuHās*. Then *haxt(a)yā* 53.7b must have been **haxti-Hās*. In the *α*-stems, *-ayā* must then be **-aiHās*.

Hoffmann (1975/6:561, fn. 2) pointed out that Vedic *-os* must continue **-Hous*, as shown by trisyllabic *pitrós*, *mātrós*, *svāsros*, *hāryos*, *hārvos*. He connected it with *ahvā* (which of course has another ending) and suggested that the laryngeal was *h₁* (taken from the nominative dual). This would mean that the Proto-Indo-European endings were nom. **-h₁(e)*, gen. **-h₁ē/ōs* or **-h₁e/oHs*, loc. **-h₁ou* (*-s* is evidently a later addition). However, we cannot be certain that the laryngeal was *h₁*.

2.3. Important is *vairyā* 43.13e, gen. sg. of *vairya-*. From this stem, we further have *vairīm* 34.14a, 51.1a, both times trisyllabic, */variya/*. *vairyā* is supposed to stand for **vairiyayā* with haplology (which is known from both Avestan and Vedic). It is impossible that our text had *-yayā*, because, as the stem appears to have been */variya-/*, this would have given four syllables, which is impossible: the verse requires a trisyllable. The text, then, must have had */variya/*.

For *-iya-* in this form, there are in principle two explanations:
(1) If it was a Sievers form of *varyā* (with haplology from */vairiyayā/*),

this would mean that it was **varH-ya-* that gave the Sievers form. (2a) If *-iya-* goes back to *-iHo-*, */variHayāh/* could only have been shortened to */variYāh/* after */variHayāh/* had developed into */variYayāh/*. (2b) If *-iya-* goes back to *-iHo-*, there is a second possibility, namely, that the feminine of */variHa-/* was */variH-/* (AiGr. II.2 401, 412). This would have given */varyāh/* in the genitive. But the form was trisyllabic, i.e., */variYāh/*, which can only be explained as a Sievers form after consonant plus laryngeal. If the forms with *išya-* are one word (Insler thinks that there are three separate words), and if it had *-iHo-*, *išyqm* does not have an *ī-* form for the feminine. I find no forms in Gathic with *-y-* after *-CH-* and thus cannot determine whether or not Sievers' Law operated there. The Sanskrit evidence is negative (cf. Beekes 1976:90). Therefore, (1) and (2b) are improbable. (1) is improbable anyway as the form is a gerundive, where Gathic and Vedic have *-iya-*; a Sievers form is impossible here, since *-iya-* must be from *-iHo-*. Cf. Monna (1978:98): *zahya-* 53.8b, *zəvīm* 31.4a; *išya-* is very uncertain; on *aojya-*, cf. 2.1. Insler adds *vaēdyā* 44.8d. Therefore, (2a) must be the right explanation.

This is rather important, as it would prove that the laryngeal after *i* and *u* was already lost early enough for the haplology to occur in this form. It seems obvious to assume that the laryngeal after *a* had disappeared as well at that time.

2.4. *ī/yā-*stems: The forms found in Gathic are:

Sg. Nom.	<i>-ih₂</i>	<i>-ī</i>	<i>vaṇuhī</i>	<i>yezivī</i>		
Acc.	<i>-ih₂m</i>	<i>-īm</i>	<i>vaṇuhīm</i>	<i>təvīšīm</i>	<i>azīm</i>	<i>hāitīm</i>
Gen.	<i>-ieh₂-(e)s</i>	<i>-yā</i>	<i>vaṇhuyā</i>	<i>būmyā</i>		<i>azyā</i>
Dat.	<i>-ieh₂-ei</i>	<i>-yāi</i>	<i>vaṇhuyāi</i>			
Inst.	<i>-ieh₂-eh₁</i>	<i>-yā</i>	<i>vaṇhuyā</i>			
Loc.	<i>-ieh₂-i</i>					

Pl. Nom.	$-ih_2es$	$-\bar{i}\check{s}$	$manao\theta r\bar{i}\check{s}$	$a\eta u\check{h}\bar{i}\check{s}$	$n\acute{e}max^v\bar{a}it\bar{i}\check{s}$
Acc.	$-i\check{h}_2ns$	$-\bar{i}\check{s}$	$ar\check{s}navait\bar{i}\check{s}$		
Gen.	$-ih_2om$				
Dat.	$-ih_2-bhyos$	$-iby\bar{o}$	$\acute{s}yeitiby\bar{o}$		
Du. Nom.	$-ih_2-(i)H$	$-\bar{i}$	$t\acute{e}v\bar{i}\check{s}\bar{i}$	$az\bar{i}$	
Acc.		$-\bar{i}$	$t\acute{e}v\bar{i}\check{s}\bar{i}$		

We have seen that the *i* remained vocalic in Gathic when from an original sequence *iHV*. This means that the accusative singular and plural, as well as the nominative plural, must be analogical, having been re-modeled after the \bar{a} -stems.

The Proto-Indo-European form for the nominative dual is not certain. From $-ih_2-iH$, one might expect $-iyi$.

The genitive singular may have had $-s$ or $-es$, but in the dative only $-ei$ seems possible ($-i$ would have given $-y\bar{e}$). If it is old, the laryngeal has left no hiatus. The instrumental might have had $-ieh_2h_1$.

3. The Sequence $aH-V$:

3.1. Apart from the other \bar{a} -stem forms, we may point to the pronouns $\theta\beta\bar{o}i$ 31.9a, 44.11c, 48.8c, and $x^v\bar{a}\bar{e}$ - 46.11c, nom. sg. fem., both monosyllabic. They must represent $*tweh_2-i$, $*sewh_2-i$. It is clear that the laryngeal disappeared in this sequence.

3.2. \bar{a} -stem nouns: A table of the Gathic forms is given on the next page. None of the relevant forms has hiatus:

Sg. Voc.	$-eh_2i$	>	$-a'i$
Acc.	$-eh_2m$	>	$-a'am$
Inst.	$-eh_2eh_1$	>	$-a'\bar{a}$?
Loc.	$-eh_2i$	>	$-a'i$ (but $vy\bar{a}naya\bar{a}$ is uncertain)

Pl. Nom. $-eh_2es > -a'as$

Acc. $-eh_2ns > -a'as$

Du. Nom. $-eh_2i > -a'i$

There is some doubt about the instrumental singular. It could have been $-eh_2-h_1$ or perhaps $-h_2-eh_1$. Both would give monosyllabic forms.

	Singular	Plural
Nom.	$-ā$ <i>daēnā</i>	$-ā(s-)$ <i>daēnā</i>
Voc.	$-ē, -ā$ <i>bərəxθē, spəntā</i>	
Acc.	$-ąm$ <i>daēnąm</i>	$-ā(s-)$ <i>daēnā, sāsna(s-)</i>
Gen.	$-ayā$ <i>daēnayā</i>	$-anąm$ <i>sāsnanąm</i>
Dat.	$-ayāi$ <i>daēnayāi</i>	$-ābyō$ <i>vazyamnābyō</i>
Inst.	$-ā$ <i>daēnā</i>	$-ābīš$ <i>daēnābīš</i>
	$-ayā$ <i>daēnayā, sāsnayā</i>	
Loc.	$-ayā$ <i>vyānayā ?</i>	$-āhū$ <i>gaēθāhū</i>

Dual

Nom. $-ē$ *ubē*

For the forms in $-ē$ (*bərəxθē, ubē* [and *vyānayā*, if this is a locative in $-ai + ā$]), phonetic loss of h_2 must evidently be admitted: analogy for two (or three) different forms is much less probable. This conclusion confirms that of section 3.1.

The same explanation must be accepted for the nominative plural: the laryngeal disappeared in $-eh_2e-$ (or $-aHa-$). We arrived at the same conclusion for the dative of the i -stems (see 2.4).

The accusatives are much more difficult. The accusative singular must have become $-ām$ phonetically, because the i -stems shaped their accusative after it. On the other hand, *hyām, dyām* = */hya'am, dya'am/*

point to a vocalization $-e\bar{h}m$ with the Indo-Iranian development of the vocalic nasal. This is also found in $v\bar{a}ta-$ / $va'ata-$ / (< $*h_2weh_1nto-$) and in the accusative of the type / $mazda'am$ /. We shall return to this problem in section 4. I do not think that 3 pl. inj. $d\bar{a}n$ / $d\bar{a}n$ / 45.10e, 49.4d provides evidence; we would expect $*daH-nt > /da'at/$. The form is easily explained as analogical ($d\bar{a}+n$).

The development $-eh_2m > -\bar{a}m$ might be very early. It should be noted that Lith. $-q$ had no laryngeal ($rañkq$).

For the accusative plural, Indo-Iranian and Germanic point to $-\bar{a}s$, the other languages to $-\bar{a}ns$. It is possible that Germanic simply has the form of the nominative plural and that Indo-Iranian has $-\bar{a}s < -a'as < -aH\eta s$. The first, however, seems rather a result than a cause. For the latter, the relative chronology is relevant. As the syllabic nasals were retained as such down to the separate Indian and Iranian branches, the development $-aH\eta s > -a'as$ too could only have taken place in Proto-Indo-Aryan and Proto-Iranian. In that case, I would expect that the laryngeal/hiatus would have been preserved down to Gathic (and Vedic). The attempt to explain the evidence for $-\bar{a}s$ as secondary, therefore, is not strong. A priori, it is more probable that the aberrant $-\bar{a}s$, found in two widely separated groups, is the older form and $-\bar{a}ns$ an adaptation. Above we saw that $-eh_2m$ could have resulted early in $-\bar{a}m$. Then it is probable that $-eh_2ns$ in the same way and at the same time resulted in $-\bar{a}ns$, which could have further developed into $-\bar{a}s$. If this is correct, the development probably was still Proto-Indo-European (Rix 1976:75 gives the same interpretation).

3.3. $x\bar{e}ñ\bar{e}m$ 48.12b, 53.2b has a variant $x\bar{e}ñ\bar{u}m$, but $x\bar{e}ñ\bar{e}m$ is in both places clearly the better attested reading (note that H_1 has this reading; in Y 53, K_5 corrects $-\bar{u}m$ to $-\bar{e}m$. See Kellens [1974:196] for corrections to Geldner; I do not subscribe to his conclusion that "les leçons sont assez équivalentes"; also \bar{u} for \bar{e} is much more probable than the reverse). The best interpretation is a root noun $x\bar{e}ñ\bar{a}-$ with $x\bar{e}ñ\bar{e}m = *x\bar{e}ñq\bar{m} < -eHm$. If it is the root "to know", the laryngeal

would have been either h_3 or h_1 .

3.4. Nom. sg. *māθrā* is trisyllabic, 50.6a, 51.8c, and represents **mentro-Hōn* (-*Hēn*) as shown by Hoffmann (1955). The laryngeal is hard to identify. Hoffmann suggests that Gk. *μελαν-* is *mel-Hn-* "Schmutz habend". In that case, it must be h_2 . But *μελαν-* is not clear enough. Lat. *iuvēnem* < *(h_2)*yuHenm* does not prove h_1 , as Hoffmann seems to suggest. Hoffmann suggests that the laryngeal was h_1 because there are no "konstante Vokalumfärbungen" (n3), with which he points, I think, to Gk. and Lat. -*ōn*. However, in -*oHōn*-, -*o-Hon*-, -*oHn*- all laryngeals are possible, and, for -*o-Hēn*-, -*o-Hen*-, h_3 is easier than h_1 , but we cannot be certain.

As we saw, in -*eh₂e*- the laryngeal left no hiatus. Here we could assume that we have h_1 or h_3 and that this remained. I think that this is improbable phonetically ([*ah₂a*, *eh₁e*]). Rather, it would have been analogical; it could have been taken from **mantraHn*-. This would be parallel to **dyaHm* after **dyaHs* (see 4).

3.5. *zaranaēmā* 28.9a. I suggested (apud Monna 1978:10, n17) an original athematic **zr̥-naH-iH-ma* /*zr̥na'īma*/. The form may well be thematic just as it stands, /*zarnaīma*/, for several lines have 7 - 8 syllables in Y 28. Also, -*aHīHma* would have lost its hiatus in Gathic, unless it was restored analogically. I see no reason for Insler's emendation **zarnāyaēmā*. Of course, *zara-* stands for *zarə-*, with -*ar-* introduced from *zarəta-* (or elsewhere).

3.6. *frīnāi* 49.12c presents several difficulties. The forms from *frī-* in Avestan are:

Act. <i>frīnāmi</i>	Subj. <i>frīnāni</i>	
<i>frīnaiti</i>	<i>frīnāt</i>	
<i>frīnənti</i>		imp. <i>frīnəntu</i>

Mid.	<i>frīnāi</i> (GAv.)	
<i>fryqrmahī</i> (YH)	<i>frīnāmāhī</i>	ptc. <i>frīnəmnā</i> (GAv.)

fryqrmahī is athematic, *frīnəmnā-* is thematic, all other forms can be both.

If *frīnāi* is thematic, we would expect *frīna'āi*, but there are more exceptions here (see 3.8).

However, I would expect hiatus from the athematic form too. In the first place, an athematic subjunctive would have *-o-h₂ei* > *-a-Hai* > *-a'ai*. This holds for all 1 sg. athematic subjunctive forms. But *frī-nāi* has an extra complication: the subjunctive also has the full-grade of the stem in Avestan, as in Vedic, in the *nā*-presents. This would give 1 sg. *-naH-a-Hai* > *-na'a'ai*. (This is the only *nā*-verb in Gathic; Vedic has no 1 sg. middle.) If the laryngeal following *e/o* (IIr. *a*) had disappeared without hiatus, there would be no problem.

3.7. PIE *-ee-*, etc.: It has been held that in Gathic two of the PIE vowels *-e-* and *-o-* when directly following each other, were not yet contracted. However, I do not think that this is correct.

In the first place, it is a priori very improbable that a sequence *-oo-* or *-oe-* remained uncontracted for more than a thousand years. It is very important to remember that, as we have seen in 3.1 and 3.2, a sequence *-e/oHV-* has no hiatus.

There is little evidence for hiatus in certain instances. If the ablative in *-ōd* originated from *-o-ed*, GAc. */-āt/* shows that there is no hiatus. The nominative plural of the *o*-stems has *-ā*. If this represents (a sandhi form of) *-ōs* < *-o-es*, it shows that there was no hiatus. The dative singular in *-āi* is discussed in 3.7.1, the genitive plural in 3.7.2. The thematic subjunctive, which is considered as positive evidence, will be discussed later.

3.7.1. Dat. sg. in *-āi*: Kuiper (1964:98) considers the possibility of "a very antique pronunciation *-a'ai*" in 33.2c *vārāi* and 51.11a

spitamāi; in 28.5b, he reads *ahurahyā* for *ahurāi*. He points out that verses with 6 - 9/8 are rare. I think that the case is even stronger. The two problems should be considered together:

	6 - 9/8; 6 - 7	dat. in <i>-āi</i> in two short half-lines
30.1b	6 - 9	<i>ahurāi</i>
31.15b	6 - 9	<i>duššyaoθanāi</i>
33.2c	6 - 9	<i>vārāi</i>
34.4c	6 - 9	
28.5b	6 - 8	<i>ahurāi</i> , <i>səvištāi</i>
31.9a	6 - 8	
51.11a	6 - 7	<i>spitamāi</i>

Kuiper dismisses *duššyaoθanāi* since it could be /*duššiyauθna*/ or /*duššyauθ.na*/. But the first has now been proved improbable (Monna 1978: 106), and the second as well. The instances assumed by Monna (index s.v. *šyaoθana*-) have 7 - 8 (30.3b has 8 - 8) except 48.5b, where 5 - 6 must be accepted, because several such verses are found here together.

This means that five out of seven first half-lines with 6 instead of 7 syllables have a dative in *-āi* (unless we read *-ahyā* in 28.5b and 30.1b). This makes it very probable that the dative ending was disyllabic. It would bring 28.5b to 7 - 8, or 7 - 9 if *səvištāi* too had a disyllabic ending. Here it is very welcome since there are only very few verses with *two* short half-lines. (Monna has further only 46.1c, with 3 - 6; difficulties in both half-lines are further found only in 30.3b and 32.6b with 8 - 8. 31.9a would be solved if *as* were *a'as*; see 1.1.)

However, I do not think that we must read *-a'ai*. In the first place, as stated above, I think it linguistically improbable that *-oei* (*-aai*) was not yet contracted (nor could it have become disyllabic by analogy). In the second place, Gathic does not have any other phenomenon of this kind represented in so sporadic a manner; they are in general very regular (see Monna 1978:97-110). I have counted 47 nouns in

-āi (and 4 dubious ones). Of these, 4 or 5 occur in the second part of 7 - 8 verses, where there is no reason to assume a disyllabic form. Only the five forms under discussion were probably disyllabic. Then there are 36 pronominal forms (*ahmāi* 23, *kahmāi* 5, *yahmāi* 4, *mahmāi* 1, *θβahmāi* 1, *xšmākāi* 1, *yušmākāi* 1), none of which has a disyllabic ending. Lastly, the infinitive ending -dyāi has been shown to continue *-dhyōi (Rix 1976), which must be a dative; it occurs 27 times. One stands in the latter half of a 7 - 8 verse (34.5b). For one only, a disyllabic form would be very welcome, 44.8b with 3 - 7.

I think that the five datives had -āya (and perhaps *səvištāi* as well). This form is well represented in Gathic (29.5a.11b, 34.11a, 45.9d, 46.10d, 53.1c.2b.4d have -āi.ā; Hoffmann [1975/6:650] reconstructed it in *ašā(i) yecā* in 30.1c, 51.2a. Insler assumed it for *frādaθāi* *a-(spərəzatā)* in 31.16b; it must perhaps be read in *mərəšdikāi* *a-(xštaṭ)* 51.4a). The difficulty that our texts have no trace of the -a disappears if we allow influence of the oral tradition. That the form, which had disappeared from the language, was replaced by the surviving form is an easy assumption.

3.7.2. Genitive plural: Recently, Kortlandt (1978) has shown definitively that the genitive plural ending was -om. Essential in his view, and for the explanation of IIr. -a'am, is that the ā-stems had -H-om. This is shown by those languages that have reflexes of -om in the ā-stems, for, if they had originally had -eh₂-om, the -ā- (-aH-) would never have been lost. He further assumes that the o-stems had -om, not -oom; that is:

	o-stems	ā-stems	cons. stems
1.	-om	-h ₂ -om	-om

resulted in Indo-Iranian:

2.	-am	-am	-am
----	-----	-----	-----

Then \bar{a} (= aH) was introduced to characterize the \bar{a} -stems (as happened in Greek and Latin $-\bar{a}s\bar{o}m$):

3. $-am$ $-aHam$ $-am$

It was now possible to characterize the \check{a} -stems also by restoring their stem vowel:

4. $-a-Ham$ $-aHam$ $-am$

after which $-aHam$ spread to all classes:

5. $-aHam$ $-aHam$ $-aHam$

6. $-\bar{a}naHam$ $-\bar{a}naHam$ $-aHam$

This is the phase found in Gathic. (It is remarkable that again the \bar{a} -stems imposed their form, $-\bar{a}-naHam$, on the \check{a} -stems, which could have been distinguished from them with $-\check{a}naHam$).

Not only is the analogical introduction of $-(a)H-$ relevant here, but also that there was no $-oom$.

3.8. Subjunctive: The forms are collected by Monna (1978:101f). A few remarks may be added.

On $as\bar{a}\theta\bar{a}$ see Beekes (1979b) ($a-$ may be a glide vowel between $y\bar{a}i\check{s}$ $z\bar{a}\theta\bar{a}$ = $/zaa\theta a/$).

On $fr\bar{i}n\bar{a}i$ see 3.6.

$is\bar{a}i$ can be athematic, though $is\bar{o}y\bar{a}$, $is\bar{a}mna-$ are thematic ($is\bar{e}$ can be both).

Add to the list $dy\bar{a}i$ $/\bar{d}ya'\bar{a}i/$ 29.8c. Though of uncertain interpretation, this seems to be the best analysis of the form. (It will be a ya -present, i.e., thematic, and a subjunctive, so $-a'\bar{a}i$. Y 29 has two or three lines with 7 - 10 -- I would hesitate to change $a\theta a$ to $a\check{t}$ -- but only one with 7 - 8 if $\theta\beta am$ is monosyllabic.)

The thematic forms may be grouped thus:

	<i>a'a</i> most probable	prob./poss.	improb./imposs.
3 s/p	<i>paitiśāṭ</i> <i>iśāntī</i> <i>hacāntē</i> <i>bairyaṅtē</i>	<i>vaocāṭ</i> <i>vāurāitē</i> <i>rāreśyaṇ</i> / <i>rā'ṛśyaan</i> /	
1 s	<i>hanānī</i>	<i>iśasā</i>	<i>ufyānī</i>
act.	<i>sēnghānī</i> <i>vaocā</i> <i>xšayā</i>		(<i>yāsā</i> indic. ?)
mid.	<i>perēsāi</i> <i>dyāi</i> ?	<i>manyāi</i> <i>śyavāi</i> <i>xšāi</i>	<i>jasāi</i> (3x) <i>yasāi</i> (3x) <i>isāi</i> (3x; athem. ?) <i>frīnāi</i> (athem. ?) <i>seraošānē</i> (s-aor. ?)

The exceptions form a serious problem, especially *jasāi* and *yasāi*, which occur three times each, so that they are absolutely certain. One might of course think that these are the forms actually spoken by Zarathustra, but it is hard to assume that all other hiatus forms are archaisms of the religious poetic language or taken from a different dialect.

The forms of the 1 sg. are usually reconstructed thus for PIE:

	PIE			GAv.	
	ind.	subj.		ind.	subj.
Act. athem.	<i>-mi</i>	<i>-oH</i>	> <i>-ā</i>	<i>-mi</i>	<i>-ā</i>
them.	<i>-oH</i>	<i>-o-oH</i>	> <i>-ā</i>	<i>-ā</i>	<i>-a'ā</i>
Mid. athem.	<i>-h₂ei</i>	<i>-o-h₂ei</i>	> <i>-a'ai</i>	<i>-ē</i>	<i>-āi</i>
them.	<i>-o-h₂ei</i>	<i>-o-o-h₂ei</i>	> <i>-ā'ai</i>	<i>-ē</i>	<i>-ā'āi</i>

If the laryngeal caused hiatus, we would expect it in the middle sub-

junctive of thematic *and* athematic forms. I see no basis for a re-shuffling of hiatus that could account for the actual facts. We must assume that the laryngeal left no hiatus. If that is correct, we can be sure that *-oo-* did not either. Also, we saw in 3.7 that the evidence for hiatus from *-oo-* etc. is negative.

However, I think that the reconstruction given above is wrong. Renou (1932) has shown that the thematic forms originally were a category independent from the verbal system and that from it developed the (thematic) subjunctive (of athematic verbs) and the thematic indicative. This gives the following picture:

PIE			Indo-Iranian	
	ind.	subj.	ind.	subj.
act. athem.	<i>-mi</i>	<i>-oH</i>	<i>-mi</i>	<i>-ā</i>
them.	<i>-oH</i>		<i>-ā</i>	
mid. athem.	<i>-h₂ei</i>	<i>-o-h₂ei</i>	<i>-ai</i>	<i>-āi</i>
them.	<i>-o-h₂ei</i>		<i>-āi</i>	

In a later phase, but still in Indo-Iranian, a thematic middle indicative form *-ai* was created. (In Gathic there is only one certain instance, *āyesē* 53.6c; *isē* could be athematic.)

For our subject the conclusion is the same: in *-oh₂ei*, the laryngeal was lost, and the hiatus must have been introduced later. Cowgill (1968:27) reached the same conclusion, though operating with *-oo-h₂ei*. Cowgill also noted that the fifteen Rigvedic instances of *-ai* are never disyllabic.

If *frīnāi* was athematic, i.e., **prinaHaHai*, the loss of laryngeal would explain monosyllabic *-āi*.

The explanation of the hiatus is simple: the stem-vowel of the thematic verbs was analogically introduced. This was possible because the language still had laryngeals. It is exactly comparable to what happened in the genitive plural. The subjunctives of the type *da'at*, *vida'at*, *fra'ā*, *ga'at*, *pa'at* probably served as a model. They could

be analyzed as having a subjunctive characterized by $-a-$ (or $-Ha-$) This means that the endings were $-a'\bar{a}$, $-a'\bar{a}i$, etc.

4. Conclusions:

At the beginning of a root, the laryngeal was probably preserved, though the evidence consists of two forms with \bar{r}_2 (*uzirēidyāi-*, *rārēš-(y)a-*) and the doubtful *as* / $a'as$ /.

As to iH , uH before vowel, we have seen that i , u were still syllabic in Gathic. The exceptions *daidyat̥* and *hizvā-* may have found an explanation, but not so *x^vēnvat* and *aojya-*. The acc. sg. $-im$ is analogical after the \bar{a} -stems. *Vairyā* proves that the laryngeal as such had disappeared some time before our texts and that Gathic had $-iya-$, $-uva-$.

Much more complex is the problem of the development of aH . The evidence of the \bar{a} -stems and especially that of the 1 sg. middle subjunctive shows that the laryngeal was lost in this position. However, there are several instances where it (or at least hiatus) is still found. To explain this situation, I see three possibilities: a different treatment of the different laryngeals; different environments; or analogical preservation/reintroduction. The first is suggested by *dyqm*, etc., which has h_1 , as against the accusative singular of the \bar{a} -stems. It is phonetically possible that eh_2m lost and eh_1m retained its laryngeal. But this should have happened at least in early Indo-Iranian (before the time that e and o and the laryngeals fell together). Vedic *syām*, etc., often have an extra syllable, though, in all persons. If it started in the 1 sg., it must have been analogically extended. I think it more probable that it was analogically retained.

I think that analogy is the explanation of the other instances of laryngeal/hiatus too. The roots *frā-*, *gā-*, *pā-*, *vidā-* had h_2 , and in these cases it cannot be due to a specific laryngeal, as it is certain that h_2 disappeared. They must therefore be explained through analogy. At the end of the root, this is quite understandable. In the genitive

plural, -aH- was secondarily introduced. *Məθrā* is comparable to *dyqm*. On the other hand, *xšnēm* seems not to have been restored.

	ROOT	SUFFIX	ENDING
<i>i/uh₁</i>	<i>ərəš-jyōi</i>	<i>raiθīm</i> <i>dyā < *d(h)Hi₁h₂e</i>	
<i>i/uh₂</i>	<i>hvarə-</i> <i>x^vəng</i> <i>x^vənvat*</i>	<i>-īm*</i> <i>-iš*</i>	
<i>i/uh₃</i>	<i>(uzirəidyāi)</i>		
<i>i/uH</i>	<i>frya-</i> <i>tvəm-</i> <i>zbaya-</i> <i>dušāšōbā</i> <i>vyā-</i> <i>mruyē</i> <i>suyē</i> <i>daidyat*</i>	<i>-ya- < -iHo-</i> <i>aojya-*</i> <i>tanū-</i> <i>hizū-</i> <i>hizvā-*</i>	<i>-ā (gD)</i>
<i>ah₁</i>	<i>vāta-</i> <i>dā- (subj. ?)</i> <i>mazdā-</i> <i>zrazdā-</i> <i>asāθā (?)*</i>	<i>hyəm</i> <i>dyqm</i>	
<i>ah₂</i>	<i>frā (subj.)</i> <i>gāt , ,</i> <i>pāt (?) , ,</i> <i>vidā-</i> <i>(rərəš(y)a-)</i>	<i>θβōi*</i> <i>x^vāē-*</i> <i>bərəxθē*</i> <i>-qm (aS)*</i> <i>-ā (naP)*</i> <i>ubē*</i>	<i>-āi (subj.)*</i>
<i>ah₃</i>	<i>dāh-</i> <i>hu-, duš-dāh-</i> <i>ādā-</i> <i>dā- (subj. ?)</i>		

	ROOT	SUFFIX	ENDING
aH	yāh-	mθrā	-qm (gP)
	θβqm (?)	paθqm (?)	
	ʷšnēm (?)*	frīnāi (?)*	
() in anlaut; * no hiatus			

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VENETIC REVISITED

MADISON S. BEELER
University of California

The purpose of this paper is to look once again at the question of Venetic subgrouping. For sixty years after 1890 this problem did not exist, and the classification of Venetic as a member of the "Illyrian family" of Indo-European was (almost) undisputed. This aligning of that ancient, pre-Roman language of northeastern Italy was attacked in 1949; since then several different views have been defended, and there is now no consensus. My own opinions, as well as those of others, have fluctuated: I once thought that Venetic could, more or less neatly, be regarded as a coordinate branch of the Italic family of Indo-European. More recently, my conviction of the Italic character of Venetic wavered, and I came to think that the opposed view (first put forth by Krahe [1950] and quite recently canonized by Lejeune [1974]) was perhaps a better way to envisage Venetic relationships: this view holds that Venetic is a separate, coordinate Indo-European branch, without particularly close genetic ties to any other branch of Indo-European. My adherence to that school of thought was, however, expressed without full conviction (*Kratylos* 20, 1977, p. 100), and Szemerényi (*Gnomon* 51, 1979, p. 17) is quite correct in pointing to the lack of clarity in the opinion there expressed. I desire, then, to say here why I now think it impossible to take an unequivocal position on any side of this difficult question. One may point, I think, to what seems to me the lack of precision with which Szemerényi (*loc. cit.*) voices his own opinions.

The dispute may, for purposes of my discussion, be thought to lie between those who support a close genetic connection between Venetic and Latin, and those who deny the existence of any such relationship. In what follows, I attempt to summarize the principal evidence supporting each of these views. I take my examples from among the list of fifty-four isoglosses assembled by Lejeune (1974:165f); some of those I use I will interpret otherwise than the French scholar does. I choose to commence with the presentation of the position of those who champion Venetic as an independent Indo-European language. First, I pass in review the inventory of inflections. In the citation of Venetic words, I omit the puncts.

Venetic has a preterite in *-s-* (*fagsto* "fecit," *donasto* "donavit" or "donabat," *donasan* "donaverunt"); Latin has nothing comparable, whereas Venetic shows nothing at all like the characteristically Latin *pf.* suffix in *-u-* or the imperfect suffix *-ba-*.

Venetic has a 3rd sing. desinence in *-to*, which appears to be combined into a single paradigm with a 3rd pl. ending *-nt* (cf. *donasto* vs. *donasan* [*< *donasnt*]), i.e., Indo-European middle and active terminations. Latin of course has no *-to* ending, even though this Indo-European desinence underlies its passive ending *-tur*.

Venetic has a 3rd sing. ending in *-r*, found in *toler*, *tolar*, *didor* (so restored by Lejeune). Such an ending is found here and there in Indo-European (e.g., Celtic, Umbrian, Phrygian, Anatolian, Tocharian); in Latin, the verbal endings containing *-r* always consist of this *-r* added to a verbal segment already inflected for person. The Venetic forms cited appear to have their *-r* suffixed to the verbal stem, *not* to an already inflected verb. That is, the two languages, although employing the same building blocks, combine them in different ways.

The Venetic gen. sg. of *o*-stems in *-i* is now well documented. This same ending occurs of course in Latin (though not in Osco-Umbrian) and in Irish, but in none of the other principal Indo-European languages, i.e., it is a specialty of western Indo-European. The commoner Indo-European ending **-o-syo* is found in Faliscan, usually classified with

Latin into a separate subgroup of Italic.

Venetic has innovated in the creation of an acc. sing. of the 1st person sing. pronoun as *meḡo*, modeled clearly on the nom. *ego*. This innovation we find also in Germanic (Goth. *ik*, *mik*, etc.); it has been frequently asserted (e.g., Krahe) that this innovation is a feature shared by Venetic and Germanic, that it testifies to a special relationship between these two languages. I know of no sure test to determine whether a particular feature occurring in two distinct languages owes its genesis to a single act of creation, or whether the innovation in question was made independently in each language. What we are here talking about is the interaction on each other of different case forms in the personal pronoun. Such an interaction can be widely documented in a variety of Indo-European languages; it occurs in Hittite, for example. It need not necessarily have its source in genetic relationship.

Some lexical isoglosses may be significant. Among these is the derivation of a denominative stem in *-ā-* from the noun for "gift," Ven. *donon* : *dona-sto*. Elsewhere such a formation occurs only in Oscan *-duna-tted-* and in Latin *-donā-vit*. Another is the occurrence of a verb **fak-* "make," found only in Ven. (*vhaksto*), Lat. *faciō*, Umbr. *fagia*, Osc. *fakiad*; Ven. *entol* "within," Lat. *intus*, Gk. ἐντός; it is found nowhere else. Only in Venetic and in Latin does the plural of PIE **leudhero-* "free" come to be used for "children": Ven. *louderobos*, Lat. *liberī*. The adjective for "dead," has in Ven. *murtuvoi* (dat. sing. masc.), Lat. *mortuus*, and OCS *mrtvъ* a *w*-suffix (whatever its origin: probably by influence of the PIE **gʷi-wo-* for "alive"); here the agreement between Venetic and Latin has a good chance of being significant. For *sselboisselboi* "for himself," Venetic has a match only in Germanic: Goth. *silba*, OHG *selbselbo*. Ven. *teuta* "people" lacks a corresponding form only in Latin, Slavic, and Greek among the Indo-European languages of Europe.

We may pause here. The proliferation of data would not materially change the picture. The evidence, thus far, derived from an examination of morphological and lexical facts and their ramifications within the

family, requires only that Venetic be placed within that family, and that, within it, it be classed as a language of the west-European type. There are some isoglosses that link Venetic with Latin; but there are also those which point toward Germanic. The brief review we have made would, I am sure, never have persuaded anyone that Venetic was an Italic language. The linguistic facts would seem to confirm the geographic ones: Venetic was a generalized west-European kind of speech, with no particularly close affinities anywhere.

This picture will alter when we examine aspects of the historical phonology.

To be noted first is the subject of accentuation. Here the facts of syncope (loss, under specified conditions, of short vowels in the second syllable of polysyllabic words as well as in final syllables) imply an initial stress accent (Lejeune 1974:125). A similar, if not identical, situation prevailed in Latin and in other western Indo-European languages, particularly Germanic and Irish.

As for the syllabic liquids and nasals, the data are not overabundant. It appears that syllabic *n* (*ŋ*) became *an*: **donasŋt* "they gave" > *donasan*, as in initial position in Oscan; the Latin reflex, different, is *en*. There is no clear evidence for syllabic *m*. For *l* we apparently have *ol*, as in Osco-Umbrian and early Latin: **wl̥t̥l̥* "wish," Lith. *vil-tis* "hope," Ven. *volti-genei*, etc. The word for "dead" has in Venetic *murtuvoi*; this, without stretching credibility, can be supposed to stand for an antecedent **mortwoi*, and that would show for *ɾ* a reflex *or*, as in Latin (*mortuus*).

The only other part of its vocalic system where Venetic exhibits problems is in the area of the diphthongs, and here only for *eu* and *ou*. At an earlier stage of research, it seemed possible to hold that Venetic, like other early Indo-European languages of ancient Italy, had merged these two into -- at an early stage at least -- *ou*. More recent discoveries, however, have brought to light many examples of *eu*, confusing the picture. It is Lejeune's (1974:110-1) judgment that the common Italian development, which can be detected in the Venetic mate-

rial, has been subjected to influence of various adstratums, substratums, or superstratums; and some of the words with *eu/ou* have no etymology. To the extent that we find *ou* for original *eu* (louderobos "children," cf. Gk. ἐλεύθερος), we have the same change of IE *eu* as in Latin; if this was "normal" in Venetic, it has been widely disturbed by various borrowings and foreign influences.

We come to the system of consonants. Here we look first at the labiovelars. k^w , the voiceless obstruent, appears in Venetic as in Latin, unchanged: Lat. *-que*, Ven. *-kve*, the enclitic for "and." The Indo-European cluster k^w has, as in Latin, merged with the reflex of k^w : Ven. *ekvon* "horse" = Lat. *equom*. The corresponding voiced stop has, as in Latin, lost the stop component: Ven. *vivoi* = Lat. *vivus* "alive," IE $*g^w\tilde{w}os$.

Latin appears to retain the two Indo-European nasal consonants in final position: *equom* and *nōmen*. Before the discoveries of the past quarter century, it seemed that Venetic had, like Greek, Germanic, and Hittite, replaced final *-m* with *-n*. This was indeed cited by Krahe (1950) as a significant difference between the two languages. But a year or two later, the finds at the Lāgole site were published, and they showed numerous instances of final *-m*. Some think that these Lāgole final *-m*'s represent a recent conversion of a pre-existing *-n* into *-m*, perhaps under the influence of an Indo-European language of the region that had retained *-m*; others suppose that the use of *-m* for *-n* does not reflect the spoken language, but is only scribal. Why cannot IE *-m* have survived in the relatively remote area constituted by the upper valley of the Piave river, the Cadore region? If it did, it would show that the replacement of *-m* by *-n* was fairly recent in Venetic, that the change had encountered areas of resistance.

We come now to what should be called the most characteristic of all the phonetic changes undergone by the language, those involving the so-called "voiced aspirates." It is usually supposed that IE $*ǵh$ yielded h (as in Latin): *hosti-havos*, a compound name derived from the Indo-European stems $*ǵhosti-$ and $*ǵhau-$. When we come to IE $*bh$ and $*dh$, we

find that they are both subjected to a double treatment: they become voiceless spirants in initial position, voiced stops medially. We further find that in initial position they are merged into *f*-. IE **dhək*-, Ven. *vhagsto*, Lat. *faciō*; IE **bhrāter*-, Ven. *vhraterei*, Lat. *frāter*. And in medial position: IE **leudhero*-, Ven. *louderobos*. The suffix *-bos* in this last form expresses the dat. pl. and is derived from IE **-bhos*, Lat. *-bus*, Gallic *-bo*, Messapic *-bas*, Skt. *-bhyas*.

We note that the historical development of the Indo-European voiced aspirates is almost identical in Venetic and Latin. In assessing the meaning of this identity, one should not lose sight of the differences which exist here between Latin and the languages with which it is traditionally closely associated, i.e., Faliscan and Osco-Umbrian. All four of these tongues, which a long and still respected tradition classes together as Italic, differ among themselves. It is only Latin among them that presents different reflexes initially and medially; as we have seen, Latin does here what Venetic does.

When the force of these identities between Venetic and Latin impressed itself on me, over forty years ago, I ventured to question the then well-entrenched dogma of the Illyrian affinity of Venetic and to suggest that that orthodoxy be replaced by the theory that Venetic and Latin shared a close genetic relationship. This was first published in 1949; it received then a varying reception, and, although no one any longer accepts the Illyrian doctrine, there is likewise no universal acceptance of the Italic theory.

The reason, I think, is clear: the close agreement in the phonological area is not matched in the lexicon and morphology. When we look at these areas in language families of moderate time depths -- say 1500 - 2500 years, such as Romance, Germanic, and Slavic -- what we find is a substantial measure of sameness in all areas. The phonological similarities (practical identity) between Latin and Venetic can hardly be attributed to diffusion or borrowing: at the opening of the historical period, the two languages are not spoken in contiguous territories. Even if the similarity could be accounted for by borrowing, we

would still want to know -- why only in the phonological sector?

I had reached this impasse some two years ago. In a lecture delivered on the campus of the University of California at Los Angeles in April, 1977, I said much of what has been said above. It is now perhaps time to set it before a wider scholarly public. I must come to the disheartening conclusion that the problem is essentially insoluble, in any definite way, with the evidence presently accessible to us.

ADDENDUM

I wish to make explicit why I cannot accept the opinions of Krahe and Lejeune: the remarkable parallel in the development of the voiced aspirates demands at least an attempt at explanation. The closeness of this parallel is usually not adequately emphasized. It is hardly to be believed that mere chance could have produced it. Yet that, if I read the discussions rightly, is what appears to me to be implied by those who deny a close genetic relationship.

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NEW LINGUISTIC DATA FOR HISPANO-CELTIC:
AN EVALUATION

CORNELIUS JOSEPH CROWLEY
Saint Louis University

Toward the end of the last century, scholars of the caliber of Ascoli, Diez, Schuchardt, and Thurneysen took a dim view of the linguistic impact of Celtic on Romance. It was only with the work of Meyer-Lübke, Jud, and von Wartburg that this attitude of skepticism began to change, clearing the way for a more thorough, concentrated, and scientific approach in the significant research of Dottin, Pokorny, and others.

It must be remembered that the early workers in the field of Hispano-Celtic were not professional Celticists. Their knowledge of Celtic was, at best, imperfect and sketchy, and, to complicate the situation, they were primarily interested in lexical data and had little, if any, concern for phonology, morphology, and syntax. Fortunately, subsequent scholars profited from the mistakes of their predecessors and gradually learned to employ a strictly rigorous, scientific approach to the puzzling problems that beset them in their quest for linguistic accuracy.

A very forward step has been taken in our own century by an accomplished Spanish scholar, Antonio Tovar, who has been adding meaningful data to Hispano-Celtic studies since the early 1940's. At about the same time, Professor John Corominas, of the University of Chicago, made his appearance on the scholarly stage and in 1954 brought out his

great Spanish etymological dictionary, which contains a wealth of information on Hispano-Celtic.¹

It is the purpose of the present paper to dispel the fog that has obfuscated Hispano-Celtic investigation for so many years and to assess the advances that have been made during the last several decades. Our study will be subsumed under the following rubrics: (1) Phonology; (2) Morphology; (3) Semantics; (4) Miscellaneous.

PHONOLOGY

A close examination of the Hispano-Celtic remains in Spanish reveals the operation of the phonological phenomenon known as lenition, which involves intervocalic consonantal change, as well as initial consonantal change, when influenced by the final sound of the directly preceding word and which is of paramount importance in the Celtic languages.

¹*Diccionario crítico etimológico de la lengua castellana*, 4 tomos, Berna: Editorial Francke (1954). Professor Corominas is uniquely equipped for the pursuit of linguistic and lexicographical research. He is more than competent as an Indo-Europeanist and Celticist and his expertise in Comparative Romance is beyond question. As for Professor Tovar, his credentials are also of a high order. He has made a significant contribution in establishing the presence of genitives in *-is* for types of a second declension in *-us*. Thus, he lists *Modestis* (genitive of *Modestus*), *Viriatis* (genitive of *Viriatus*), and several others. He goes on to show the importance of analogy in such formations as **Clodamen*, genitive *Clodamenis* < *Clodamenus* and **Aenibeles*, genitive *Aenibelis* < *Aenibelus*. Since this information sets down a uniform declensional pattern, it is of utmost importance. See his "Pre-Indo-Europeans, Pre-Celts and Celts in the Iberian Peninsula," *Journal of Celtic Studies*, I (1949), pp. 11-43. Another important facet of his work is the disproving of the Basque-Iberian thesis, which represents a salient step forward from the days of Hübner and his school. See also his "Les traces linguistiques celtes dans la Péninsule Hispanique," *Celticum*, VI (1963), *Actes du Troisième Colloque International d'Etudes Gauloises, Celtiques et Proto-Celtiques*, pp. 381-403.

A very good example of initial lenition, or mutation, as it is sometimes termed, may be seen in Spanish *lata* "long rod or stick" from a Celtic base **slatta*, observable in Old and Modern Irish *slat* "little rod," Welsh *llath* "rod," Breton *laz* "rod." For internal lenition, we have an example at hand in Spanish *sábalo* "shad" from Celtic *samōlos* > *sabōlos*, showing lenition of *m* to *b*.

Dissimilation of original *mb* > *nn*, *nn* > *nd*, *r* > *l*, *tl* > *dl*, *dl* > *dd*, *vr* > *fr* occurs in the following instances:

(1) Gaulish **cambica* "bent wood" < **cambo*s "crooked", Old Irish *camm*, Breton *kamm* "crooked," Spanish *canga* "cangue," showing further Hispano-Celtic reduction of *mm* to *ng*; Gaulish **cambita* "wheel-rim," Breton *kammet*, Spanish *llanta* "wheel-rim, tire." Note the Hispano-Celtic dissimilation of *mm* to *ll*; Gaulish **cambo*s "curved, crooked," Welsh toponymics *Cambo-dunum*, *Camboritum*, Spanish *cama* "sheath of a plow."

(2) Gaulish *are-pennis* "rood," Old Irish *airchenn* "an agrarian measure" > *nd* in Spanish *alpende*.

(3) Celtic *beruro* "water-cress," Middle Irish *biŕor*, Modern Irish *biolar*, Scotch *biolair*, Cornish and Breton *beler*. Spanish restores the two primitive *r*'s in *berro* "water-cress"; Gaulish *taratrum* "auger" > Breton *taŕar*, Spanish *taladro*.

(4) Celtic **banatlo* "broom" > Old Cornish *banathel*, Welsh *banadl*, Spanish *báŕago* "broom." The Spanish form indicates the existence of an Ibero-Celtic **balagu*.

(5) Gaulish *sedlon* "seat" > Welsh *sedd* "seat," Spanish *seŕ* "common, settled ground."

(6) Gaulish **vroicos* "heather," Old Irish *froech*, Scotch *fraoeh*, Spanish *breso* "heather."

Metathesis may be seen in Spanish *bugalla* "oak gall" < Celtic **bullācā* "oak gall, pustule," Gaulish *bulga*, Old Irish *bolach*; in Spanish *legua* "league" < Gaulish *leuca*, *leuga* "league," Breton *léo*, *lu*, Scotch *leig*; and in Spanish *combleza* "married man's concubine" < *com-bōrtia* < *com* + **bertium*, **bretium* "bed."

The reduction of the Celtic diphthong *eĩ* to *ē* or *ĩ* is clear in Spanish *mīna* "mine" and *virar* "to turn, veer" < Celtic *mein* and *weiro* respectively. The latter development is neatly documented by Welsh *gwyr*, Breton *gwar* and *goar* "crooked," in which *-wa-* and *-oa-* are phonetically equal and show IE *ei*.²

Unlike Hispano-Celtic *ē*, which remains a closed vowel, short *ō* remains open, as evidenced in Spanish *duerna* "trough" < *durmo*, *dormo* "closed hand, fist."

MORPHOLOGY

A. Prefixes:

The vitality of the Celtic prefixes inherited from Indo-European is apparent in Hispano-Celtic *ambi* "around," *com* "with," and *sen* "apart" in Spanish *amelga* "plot of ground marked for planting," composed of prefix *ambi* + the Celtic root *el* "go," Spanish *ambuesta* "double hand-ful" < *ambi* + *bosta*, Spanish *combleza* "married man's concubine" < *com* + *bertium* "bed" > *combortia* "shared bed," Spanish *serna* "a cultivated field" < *sen* "apart," related to Old Latin *se-ne*, Classical Latin *sine* "without," + *ara* "cultivated field."

B. Suffixes:

Examples of the important Hispano-Celtic suffixes *-aeco*, *-anca*, *-ena*, *-ica*, *-isia*, *-(i)ta*, and *-uco* are at hand in Portuguese *lavego* "wheeled plow," Asturian *llaviegu* < *lavaecos*, Spanish *tranca* "beam, bar" < Celtic **taranga*, **taranca* > **tranca*, Gaulish *tarinea* "long bolt," Middle and Modern Irish *tairnge* "nail," Scotch *tarrang* "wooden plug,"

²Lewis, Henry and Pedersen, Holger, *A Concise Comparative Celtic Grammar*, Göttingen: Vandenhoeck and Ruprecht (1937), p. 11.

Spanish *colmena* "beehive" < Celtic **kolmēnā* < **kōlmos* "straw" < Indo-European **k̑lmos* > *ol(o)*. Note the semantic development from "straw" to "beehive" in Gaulish and Breton. The Leonese word *ouelmo* proves the existence of Celtic *kōlmos* (cf. Breton *kolo* "straw," Welsh *calaf*, Cornish *cala*). The semantic history of the word is extremely interesting, since even at the present day beehives are made of straw in the northwest sections of the Iberian Peninsula; Spanish *cantiga* "poem" < Celtic **cantica* "poem" (cf. Welsh *cân*, Breton *kan*, *kanou* "poet"); Spanish *queresa* or *cresa* < Hispano-Celtic **carisia* "decay" (cf. Old Irish *a-ra-chrinim* "I am falling to pieces, declining," Old Irish *crin-mil* "wood borer, bore"); Spanish *trocha* "trout" < Celtic *trogo* "to run," *trog̑tā* > *trocta* (cf. Gaulish *ver-tragus* "greyhound," Welsh *troi* "to turn about," Breton *trô* "turn"); Spanish *tarugo* "wooden plug" < Hispano-Celtic **tarūcon* "wood plug."

SEMANTICS

Archaeology proves that the Spanish Meseta was mainly a land of cereals, and history attests that it became a fertile granary for the Romans.³ The Hispano-Celtic invaders brought their agricultural skills with them. Hence, it is not surprising to find many of their words referring to the soil and its products and animals and animal husbandry.

As undaunted, redoubtable warriors, the Celts set up a system of forts, or *duns* and *brigas* as they were called, which have left ample remains in place-names in the Iberian Peninsula.

On the basis of the data given above, we have schematized our semantic material as follows:

1. *Agriculture and Husbandry:*

³Arribas, Antonio, *The Iberians*, New York: Frederick A. Praeger (1968), pp. 119-20.

a. *Trees and Plants:*

abedul "birch" < Celtic *betulla*, *betula* (cf. Welsh *bedwyn*, Breton *bezvern* "birch"); *álamo* "white poplar" < **almos* "poplar" (cf. Asturian *llamera* < **lemara*); Aragonese *arañon* "wild plum tree" < Celtic *agranio* "wild plum tree" (cf. Irish *airne*, Breton *irin*, Welsh *eirinen*); Catalan *vern* "alder tree" < Celtic **vernus* "alder tree" (cf. Irish *fern*, Welsh and Breton *gwern*); Spanish *beleño* "henbane" < Celtic *belenium*, which is attested solely in Gaulish; *berro* "water cress" < Celtic *beruro* "water cress"; Spanish *colmena* "beehive" < **kolmos* "straw," IE **k̑l̑mos* > *ol(o)* in Gaulish, as also in Breton; Spanish *brezo* "heather" < Celtic **vroicos*; Spanish *queresa* (*cresa*) "maggot" < Celtic *carisia* "decay"; Spanish *bugalla* "oak gall" < Celtic **bullaca* "pustule"; Catalan **elova*, *clovella* "walnut" < Celtic **enova* "walnut" (cf. Old Irish *enu*, Welsh *enuen*, Breton *kraoun*); Spanish *gavilla* "sheaf" < Celtic *gabhail* > Hispano-Celtic **gabella*, made up of Celtic root *gab* "to gather" (cf. Irish *gabail*, *gabail* "to gather," Welsh *gafael*, Cornish *gavel* "to gather"); Spanish *tenería* "oak bark" (cf. Breton *tann*, Old Irish *teine* "oak").

b. *Farming Tools and Accessories:*

Foremost in this category is the word for plow. In Asturian *llaviego*, Portuguese *lavego* "plow," we are provided with the Celtic base **lavaecos* (**lavos* + suffix *-aecos*, typical of Hispano-Celtic). Another useful implement was the Spanish *gancho* "hook" < Celtic **gansk̑o* "branch" (cf. Old Irish *gesca* "twig," Welsh *cainc* "branch"). Other useful words in this group are Asturian and Leonese *banzo* "cross bar" < Celtic **wank̑os* "bar, beam" (cf. Modern Irish *feice* "ridgepole") and Spanish *tranca* "beam, bar" < Celtic **taranga*, **taranca* > **tranca*. We conclude this section with the very apposite Spanish words: *silo* "a deposit for cereals" < Celtic *silon* (cf. Old Irish *sil*, Welsh *hil*, Breton *hil* "seed"); *bodollo* "pruning hook" < Gaulish *vidubium* "mattock"; *cama* "sheath of a plow" < Celtic **cambos* "curved, bent."

2. *Animals:*a. *Miscellaneous:*

The following words belong here: Spanish *palafren* "palfrey" < Gaulish *paraveredus* "light horse"; Old Spanish *bego* "snout" < Celtic **baikkion* "animal's mouth" (cf. Old Irish *béccim*, Welsh *beicio*, Breton *baegulat* "to bleat"); Spanish *garra* "calf of leg" < Celtic *garra* "thigh" (cf. Welsh *gar*, Cornish and Breton *gar* "thigh, ham").

b. *Birds:*

Spanish *malvis* "song thrush" < Celtic **milhvid*, Gaulish **melv* (cf. Breton *michuit* "blackbird," Welsh *muryalchen* "blackbird"); Spanish *garza*, Portuguese *garça* "heron" < Pre-Celtic **karkia* "heron" (cf. Breton *kerc'heiz*, *kerghyth*, Old Breton *corcid*, Welsh *crychydd*); Spanish *rodaballo* "turbot" < Celtic **rotaballos* "round limbed" (cf. Old Irish *ball* "limb" < *ballos* "limb").

c. *Fish:*

Spanish *sábalo* "shad" < Celtic **sabalos* "shad"; Spanish *trucha* "trout" < Celtic *trogta* > *trocta*.

3. *Land:*

There seems to have been some effort toward establishing small local settlements in Celtic Iberia prior to the Roman conquest. The existence of a common and privileged division of land is evidenced by the Spanish words *sel* "common grazing ground"⁴ < Gaulish *sedlon* "seat"

⁴Whatmough, Joshua, *The Dialects of Ancient Gaul*, Cambridge: Harvard University Press (1970), p. 1196, cites a curiously interesting

> Welsh *sedd* "seat" and *amelga* "plot of ground marked for planting"
 < Celtic **ambelica* (prefix *ambi* + root *el* "go") > Breton *el*, Cornish
ello "let him go," Old Irish *ad-ellaim* "I am going to see, visit."

4. *Topography:*

The well-known element *briga*, found in numerous place-names in the Iberian Peninsula and even in France and other parts of Europe, is Celtic for "eminence, hill." The related form **brigna* "mountainous place" survives in Modern Spanish *breña* "steep valley, rocky terrain" (cf. Old Irish *bri*, *breg*, Welsh and Breton *bré* "mountain," Welsh *bri*, *brigo* "top").

The vitality of the toponymic formant *briga* may be seen from the following examples:

Arco-briga (Celtiberian), *Augusto-briga*, *Calu-briga*, probably near Compostella, *Cento-briga* or *Cento-brica* (Celtiberian), *Cottaio-briga*, a town of the Vettones, a people of Inner Lusitania, extending from the Douro to the Tagus, *Deo-briga*, a town of the Vettones, *Desso-briga*, *Flavio-briga*, *Julio-briga*, *Laco-briga* or *Lacco-briga*, *Miro-briga*, a chapel in Extramadura, *Mero-briga*, *Nerto-briga*, in Extramadura, *Sego-briga*, Segorba in Valencia, *Tala-briga*, *Tongo-briga*, *Tunto-briga*, near Alcantara, *Turo-briga*, in Andalusia, *Verio-briga*.⁵

It has been estimated that Celtic *dunon* "fortress" has left over a dozen traces in France, almost as many in Great Britain, about six in the Iberian Peninsula, some nine in Austria, a few in the Balkans, three in Switzerland, and even one, *Leyden*, from *Lug-dun*, in Holland.⁶

form *selio-ioms*, found in a Latin Alpine inscription.

⁵Bárcia, Roque D., *Primer diccionario general etimológico de la lengua española*, Madrid: Álvarez Hermanos (1881), tomo primero, p. 641a; Dottin, Georges, *Manuel pour servir à l'étude de l'Antiquité Celtique*, Paris: Edouard Champion (1913), pp. 438-41.

⁶Hyde, Douglas, *A Literary History of Ireland*, London: Ernest Benn Limited (1899), p. 2; Dottin, Georges, *op. cit. sup.*, pp. 426-30.

The examples that follow are from the Iberian Peninsula:

Bisul-dunum, Besalū in Catalonia (charter of A. D. 834), *Cala-dunum*, Cala, in Portugal, *Esttle-dunum*, Estola, in Andalusia, *Seben-dunum*, in Catalonia, *Viro-dunum*, Verdū, in Catalonia, Berdun, in Aragón, attested in charters of A. D. 1185, 1258.

MISCELLANEOUS

A. *Social*:

Spanish *vasallo* "vassal, servant" < Celtic **vassallos* < *vassos* "servant." *Vassos* develops regularly in Celtic from a base *upo-stho* "one who is below" (cf. Welsh and Cornish *gwas* "boy," Middle Irish *foss*, and Gaulish compound names *Vassoriw*, *Dagovassus*); Spanish *combleza* "married man's concubine" < Celtic *com-bortia* < *com* + **bertium*, **bretium* "bed."

B. *Quasi-Legal*:

The word *ara-pennis* "rood" is considered to be Ibero-Celtic by an outstanding Celticist.⁷ The Old Spanish *Fuero Juzgo* (*Forum Judicum*) records contain the forms *arpende*, *arpiende*, *alpende* "a certain surface measurement." Modern Spanish has three forms: *arapenne*, *arpende*, and *alpende*. The first two of these maintain the original meaning, but the last, *alpende*, showing dissimilation of *r* to *l*, has the altered meaning of "shed, toolhouse." The other unit of land measurement that comes under the present heading is expressed by Spanish *legua* "league" < Gaulish *leuca*, *leuga* "league" (cf. Breton *léo*, *lu*, Scotch *leig*).

C. *Cultural*:

⁷Whatmough, *op. cit. sup.*, p. 436.

Spanish *barda* "bard" < Celtic *bard* "poet" (cf. Welsh *bardd*, Breton *barz*, Irish and Scotch *bard*, Gaulish *Bardo-Magus*); Spanish *cantiga* "poem" < Celtic **cantica* "poem."

D. *Garments:*

Spanish *bragas* "breeches" < Gaulish *braca* "breeches" (cf. Modern Breton *bragez*, *bragezenn* "trousers"); Spanish *camisa* "shirt" < Gaulish *camisia* "shirt"; Spanish *crea* "fine linen used for shirts and sheets", cf. Breton *kres*, Welsh *crys* "shirt"; Spanish *sayo* "tunic" < Gaulish *sagum* "cloak, military cloak" (cf. Old Irish *sai*, Welsh and Breton *sae*).

E. *Transportation and Roads:*

Spanish *camino* "road, highway" < Gaulish Latin *camminus* "road" (cf. Irish *ceimin* "to walk," Welsh *cam* "a step," Breton *cam* "step"); Spanish *carro* "cart, wagon" < Gaulish *carrus* "cart" (cf. Irish *car*, Breton *karr* "cart," Welsh *car* "car"); Spanish *callao* "pebble" < Celtic *caljom* "stone" (cf. Modern Irish *calad* "hard, firm," Welsh *caled* "hard," Breton *kalet* "hard"); Spanish *grava* "stone, gravel", cf. Cornish *grow* "gravel," Breton *grouan* "gravel."

F. *Nautical:*

Spanish *galerna* "stormy blast from the northwest" < Celtic *gàlerna* "strong wind" (cf. Breton *gwalarn*); Spanish *goleta* "schooner", cf. Breton *gwelan* "sea swallow," Welsh *gwylan* "gull." A beautiful semantic concept which compares the graceful sea swallow with a ship.

It should be clear from the material presented above that Hispano-Celtic research has made perceptible gains since the turn of the century. The contributions of Professors Corominas and Tovar are of signal importance and have added a broad dimension to our knowledge. The data

brought to light by these tireless, indefatigable workers will supply grist for the mills of present and future researchers for many years to come.

In spite of great progress, however, some vexing problems still remain. One of the most perplexing is the origin of Spanish *páramo* "desert," which has exercised the ingenuity of etymologists for some three centuries. The earliest attempt to provide an etymology for *páramo* was that of the famous Spanish lexicographer Covarrubias in 1611, who has this to say about it: "*Quasi por heremo, porque en aquel contorno, a causa de su cielo, no hay habitacion ninguna*".⁸ Almost three centuries later, an Argentine etymologist proposed a derivation from Greek *παρά* "alongside" + *ἄμμος* "sand".⁹

Is *páramo* a Celtic word? If it is, it would have to belong to the Brythonic, or *p* Celtic branch and not to the *q* Celtic. Archaeology has established that there were two Celtic waves of invaders of the Iberian Peninsula. The first was initiated by the Goidels and the second by the Brythons. The Goidelic invasion has been placed at 650 B. C. and the Brythonic at 250 B. C.¹⁰ Somewhere around or subsequent to the latter date, then, the word *páramo* probably entered the Hispano-Celtic domain.

Since no new etymological proposals have been advanced for years now and the problem remains unresolved, the present writer would like to suggest the possibility of a development from the IE root **as-* "to burn," suffixed form **āsā* (cf. Latin *āra* "altar, hearth," *āridus* "dry, parched"). A proto-form **aramus* could easily have evolved from this pattern, and the prefixing of the *p* would be in perfect accord with the Brythonic development.

⁸Sebastián de Covarrubias, *Tesoro de la lengua castellana o española*, Madrid: Luis Sánchez (1611, 1674), edited by Martín de Riquer, Barcelona: S. A. Horta, I.E. (1943), p. 852b.

⁹Bárcia, Roque, *op. cit. sup.*, tomo cuatro, p. 64.

¹⁰Arribas, Antonio, *op. cit. sup.*, p. 27.

While dealing with the matter of Brythonic *p*, it might be well to recall the observation of the Welsh antiquary, Edward Lhwyd (1660-1709), who first classified Celtic into the *p* and *q* group, that there were "scarce any words in the Irish besides what are borrowed from the Latin or some other language that begin with *p*, insomuch that in an ancient alphabetical vocabulary I have by me, that letter is omitted".¹¹ A glance at any modern Irish dictionary will reveal that this situation remains unchanged.

In my own search for remains of Brythonic *p* in Castilian, I have found only one word, *perol* "kettle" < Gaulish **parium* "cauldron," related to Welsh *pair* (cf. the corresponding *Q*-Celtic Irish form *coire* "cauldron"). I have also found a *P*-Italic word in Welsh *popty* "bakehouse, oven" (cf. Latin *coctus* "cooked" and the Latin doublets *coquina* and *popina* [an Oscan loanword]). Unfortunately, there are no traces of the latter in Castilian.

Some brief, pertinent closing remarks are now in order. Celtic studies have gone far beyond the groping, albeit praiseworthy efforts of early Celticists. Even so, some naive ideas have persisted. Thus, the observation of W. J. Entwistle (*The Spanish Language*, p. 40) writing in 1936 that "only one word of proved Celtic origin is peculiar to the Iberian Peninsula: Gal., Ptg. *tona* "rind," Welsh *ton*, Ir. *tonn*" is completely unfounded and must be discarded on the basis of the fruitful research of Professor John Corominas,¹² whose excellent etymological dictionary contains some outstanding material on the Celtic elements in Spanish and, instead of Entwistle's single example *tona*, documents and dates some seventy verified etyma, listing also in the course of his

¹¹Quoted by Hyde, *op. cit. sup.*, p. 4.

¹²Professor Corominas outlines what he considers to be the most important results of his Celtic research in "New Information on Hispano-Celtic from the Spanish Etymological Dictionary," *Zeitschrift für celtische Philologie*, Band 25, Heft 1/2, pp. 30-58. For any serious perusal of his work, however, one must refer directly to his large, four volume dictionary, cited above.

study over one hundred additional etyma of *possible*, but *questionable* Celtic origin, as he clearly indicates with the laconic comment "tal vez céltico." The very perceptive Professor W. D. Elcock (*The Romance Languages*, 1960, p. 176, footnote 1), a quarter of a century after Entwistle's work, questions the theory of a single word of proved Celtic origin in these words: "There may well be more. The subject calls for further investigation." That there are many, many more is now patently clear and calls for no further comment.

Finally, it may be stated unequivocally that the Hispano-Celtic linguistic evidence brought to light in the last twenty-five years, which we have analyzed, categorized, and evaluated in this paper, has completely obsolesced earlier viewpoints and paved the way for the further resolution of many perplexing problems.

LEVELS OF PHONOLOGICAL RESTRICTION IN GREEK AFFIXES¹

EDWIN D. FLOYD
University of Pittsburgh

1. Introduction and Examples:

A notable feature of many languages is that the phonological shape of affixes is somehow restricted. Sometimes, the restraints are very considerable, especially in the case of inflections per se. In German, for example, the only vowel found in inflectional endings is /ə/, and the only consonants are /d, m, n, r, s, t/². As a result of this restriction on both vowels and consonants, there is a great deal of homophony between the forms that fill different inflectional slots in German. *Lieben*, for example, can be both verbal "love" and adjectival "dear", and both uses furthermore involve a variety of paradigmatic slots (inf., 1st pl., 2nd pl. polite, 3rd pl.; masc. acc. sg., dat. pl., and most of the "weak" forms of the adjective).

Whatever the cause of the phenomenon just noted, it is not any overall limitation in the phonological inventory or phonological patterning of German. In the language as a whole, there are many more consonant phonemes than appear in inflectional endings (at least 17

¹Preliminary versions of this paper were read before the Linguistic Society of America in December, 1974, and the Linguistics Department of the University of Pittsburgh in January, 1979. I am grateful for helpful comments made on both occasions.

²Roman Jakobson apud Trubetzkoy (1969:255, n. 10).

or 18, as against the six consonants which appear in inflections)³, and although there are some restrictions, at least a half-dozen of these consonants can appear word-finally, in exactly the same position as most inflectional endings; examples are provided by *tief*, *Fisch*, *voll*, *Typ*, *Bock*, *doch*.

The same sort of thing may be readily observed in other languages. Probably both the vowels and consonants of inflectional endings are typically restricted in some way; however, it is distinctly easier to analyze the patterning in the case of consonants, and I shall therefore concentrate just on these. In Latin, for example, the inflectional consonants are limited to eight, viz., /b, d, m, n, r, s, t, w/, out of 15 or more consonants⁴. In Hebrew, there are again just eight inflectional consonants, viz., א /'/, ה /h/, ו /w/, י /y/, כ /k/, מ /m/, נ /n/, ת /t/, out of 22 or more consonants⁵. In both instances, the limited inventory of inflectional consonants is accompa-

³Cf. Werner (1972:40-2) for overall discussion of the German consonant system and the absolute minimum number of different phonemes which one must set up for the language.

⁴In counting inflectional consonants, I have included only those which appear in regular paradigmatic patterns; i.e., I have excluded various consonants which occur only in isolated pronoun forms, such as /g/ and /h/ in nom. sg. *ego* "I" and dat. sg. *mihi* "to me".

If one regards Latin [w] and [y] as allophones of /u/ and /i/, there may then be as few as 13 consonant phonemes; of course, if [w] is relegated to the status of an allophone of the basically vocalic /u/, there will be just seven, rather than eight inflectional consonants. Other uncertainties regarding the total inventory of Latin involve [ŋ] and <qu> and <gu>; if some or all of these are regarded as separate phonemes, the total number of consonants will increase correspondingly.

⁵As in the case of Latin, I have omitted from consideration those consonants which occur only in isolated pronoun forms, e.g., /h/ in אנחנו /'ənaħnū/ "we".

The total number of both inflectional consonants and consonant phonemes in Hebrew will be considerably higher than I have indicated if we regard the various stop/spirant pairs such as [k]:[x], [t]:[θ] as constituting separate phonemes; however, the proportion of inflectional consonants in the overall consonant inventory will remain about the same. For the analysis of Hebrew as having just 22 (or 23) consonant phonemes, which I have adopted, cf. Blau (1976:5-6).

nied by a certain amount of potentially confusing homophony between different forms. In Latin, the nominative and genitive cases are regularly kept distinct; however, many third declension adjectives such as *omnis* "all" show the same form for both cases in the masc. and fem. sing. A similar situation obtains in the Hebrew verbal system, where the same form is used in the imperfect for the 2nd sing. masc. and the 3rd sing. fem., as in תשמר /tišmōr/ "you (masc. sing.) will guard" or "she will guard".

The inflectional consonants of English are likewise limited, with only /t ~ d, s ~ z, n, ŋ, r, l/ being used⁶. To be sure, a language with relatively few inflections, such as English, must necessarily show some such limitation, since the number of morphologically distinct inflectional slots is fewer than the consonant phonemes of the language. The perhaps surprising thing, though, is that certain consonants are grossly overrepresented in what few inflections English does possess. The forms /ʃuɪwz/ and /dɔgz/, for example, can each be gen. sing., pl., gen. pl., or 3rd sing. of a verb. Why not distinguish these various possibilities by using the archaic *-eth* for the verb form, and *-n* or *-en* for the plural, as in some Middle English nouns? Likewise, why not get around the surface ambiguity in a phrase such as *flying planes* by developing some phonological distinction between the gerund and the present participle forms? As it happens, though, English does not seem to show any tendency at all in this direction. Rather, the trend is towards extending the area of ambiguity. If one "drops the -g", as in many varieties of English, the gerund-participle ending is then /ən/, and for nine or so verbs it is therefore homophonous with the past participle, also in /ən/: *takin'* = *taken*, *fallin'* = *fallen*, etc. In fact, one can devise fairly reasonable sentences which have three possible underlying structures: "/ʃeykən/ pop bottles

⁶This list includes comparative *-er* and adverbial *-ly*, but excludes /m/, which appears only in a few essentially isolated forms, viz., *am*, *him*, *them*, and the now rapidly disappearing *whom*.

can make an awful mess" or "/forbiden/ shortcuts can be dangerous."

2. The Pattern of Greek:

On the basis of the foregoing examples from German, Latin, Hebrew, and English, it would appear that it is fairly frequent for languages to display considerable limitation in their repertoire of inflectional consonants. Furthermore, such phonological restriction takes place even at the expense of actual or potential surface ambiguities. The question therefore arises: What advantages (if any) are gained through this apparently counterproductive phenomenon?

In dealing with this question, a study of the inflectional consonants of Classical Greek will prove ideal. The Greek inflectional system is quite elaborate, while its consonantal system is relatively simple. Consequently, it is a fairly straightforward matter to set up several quite distinct levels in Greek morphology, and these levels can then be fairly simply correlated with some sort of pattern in the phonological system.

In studying the morphology of Greek, we may conveniently start with the treatment of Greek forms given by Goodwin and Gulick (1930), which aims at both practical comprehensiveness and relative brevity. (In contrast, the monumental treatment in Schwyzler [1939] presents Greek morphology in a much less compact form, and includes many stray formations which are best left aside in discussing the general characteristics of the system.)

Goodwin and Gulick's presentation of Greek morphology clearly distinguishes non-inflectional formants (as for agent nouns, patronymics, etc.) from strictly inflectional formations. Also, it does not require too subtle an analysis to distinguish two levels within the inflectional area in their presentation. On the more basic level, which I shall call Level I inflections, we find (1) the endings for case and number in substantives, and (2) the personal endings of verbs (marking person and number), along with participial and infinitive

formations. (The various verbal endings also include some differentiation as to voice, tense, and mood.) These nominal and verbal endings are both summarized in Goodwin and Gulick in tables in bold-face type (pp. 40 and 146-7), as well as being discussed in greater detail elsewhere (pp. 40-77 and 97-138). Other Greek inflectional morphemes, though, are not thus gathered in tabular form anywhere in their presentation. This second category of inflectional formants, which I shall call Level II inflections, includes markers for (1) adjectival comparison (pp. 77-80) and (2) verbal aspect, tense, and mood (pp. 147-81, with skeletal summary on pp. 144-6).

Except for the participial formants, all of the Level I endings appear only word-finally in Greek, while all of the Level II formants can appear medially (or at the beginning of a word, in the case of the past-time marking augment). The general pattern of occurrence is illustrated by ὀξύ-τερο-ς "sharper" and θή-σο-μεν "we shall place," in which the Level II comparative and future markers are -τερο- and -σο- respectively, while -ς and -μεν are the Level I nom. sg. masc. and 1st pl. markers. The participial markers -ντ-, -μενο-, -οτ-, and -υλ- are likewise word-internal, as e.g., in the acc. sing. masc. forms τλῆ-ντ-α "placing" (active) and τλῆ-μενο-ν "placing for oneself" (middle). Without any dislocation to the theory of phonological restriction which I shall present, they could in fact be moved from Level I to Level II. (As we shall see, the general principle is that any consonant which appears in the formants of a lower level can also appear in the formants of a higher level as well.) Nevertheless, the inclusion of the participial formants on Level I, as suggested by the presentation in Goodwin and Gulick (1930:146-7), seems intuitively correct, and this analysis will also be strongly supported by the syntactical considerations to be discussed in Section 4.

Ancient Greek had 15 or so consonant phonemes, viz., /p, b, p^h, t, d, t^h, k, k^h, g, m, n, r, l, s, h/⁷. Of these, only seven, viz., /t,

⁷For general analysis of the Greek consonant system, see Allen

Chart I. Total occurrences of individual consonants in the endings listed by Goodwin and Gulick (1930)⁸:

	Level Ia (nominal) p. 40	Level Ib (verbal) pp. 146-7	Level II (adj. comp.; verbal asp.; tense, mood) pp. 77-80	Level III (adv. ends.; non-infl. formants) pp. 90-3
n	10	32	6	20
s	16	28	7	17
t	--	22	5	25
t ^h	--	19	3	3
m	--	10	--	6
r	--	--	1	15
k	--	--	2	7
d	--	--	--	17
l	--	--	--	3
p, p ^h	--	--	--	--
b, k ^h	--	--	--	--
g, h	--	--	--	--

(1968:8, n. 1) and Sommerstein (1973:2). Three problem areas require mention: (1) graphemic <z>, (2) phonetic [ɣ] and [w] in diphthongs, and (3) phonetic [ŋ]. Undoubtedly, <z> is to be regarded as a cluster /sd/ or /ds/ (cf. Allen 1968:53-6). Probably, phonetic [ɣ] and [w] are best regarded as allophones of /i/ and /u/, as is suggested by the Greek writing system; this also appears to be the analysis followed by Allen (1968:75-83); Sommerstein (1973:2), on the other hand, regards /y/ and /w/ as separate phonemes. The stickiest situation involves [ŋ], which does seem to contrast marginally with /g/; consequently, Allen (1968:33-7) ends up analyzing it as a separate phoneme, as does also Sommerstein (1973:2).

⁸For the particular analysis of the Greek consonant system which I have adopted, see note 7. The totals in Chart I will of course be somewhat different if the consonant system is analyzed differently. The uncertainty concerning the phonemic status of [ŋ] does not affect us, since [ŋ] does not appear in any Greek inflectional or derivational morpheme. There is likewise little problem concerning <z>, since this should undoubtedly be analyzed as a cluster /sd/ or /ds/; however, if

t^h, k, m, n, r, s/ appear in the various Level I and Level II formations (cf. Chart I). The extent to which the same consonants appear again and again in Greek inflection can be seen by citing a typical noun paradigm such as ποῦς "foot":

	sing.	dual	plural
nom.	ποῦς	} πόδες	πόδες
acc.	πόδα		πόδας
gen.(-abl.)	ποδός	} ποδόν	ποδῶν
dat.	ποδί		ποσίν

In this and all other nominal paradigms, the only consonants which appear are /n, s/. Verbal paradigms are likewise restricted, including only /t, t^h, m, n, s/ as in τίθεμαι "place oneself, be placed":

	sing.	dual	plural
1.	τίθεμαι	} τίθεσθον	τίθεμεθα
2.	τίθεσαι		τίθεσθε
3.	τίθεται		τίθεσθαι

inf. τίθεσθαι; part. τιθέμενος, etc.

In Level II, two new consonants appear, viz., /r, k/, along with all of the preceding group except /m/; examples of formants on this level are the alternative comparative formants -τερο- and -ιον-, superlative -τατο- and -ιστο-, aor. pass. -θη-, fut. -σε/ο-, perf. -κ(α)-, etc.

At least on phonological grounds, it is tempting to subdivide the endings of Level I into Ia (nominal) and Ib (verbal), since the only

it is considered a unit phoneme, 2 or 3 occurrences of /z/ must be added to Level III (and the same number of occurrences of both /s/ and /d/ deleted). The alternative analysis of <ai>, <oi>, <eu>, etc. as containing consonantal /y/ or /w/ will make the biggest difference, since /y/ will then appear 7 times in Level Ia, 8 times in Level Ib, 2 times in Level II, and 3 times in Level III, while /w/ will occur 4 times in Level III.

consonants in the endings of nouns are /n, s/, while verb forms include both of these, plus /t, t^h, m/. However, if any such division into sub-levels is to be made, it would seem to be distinctly less fundamental than the distinction between Level I and Level II. Nominal and verbal endings alike lie at the very basis of Greek morphology. Level II formants, on the other hand, are somewhat less central, as appears from the treatment in practically any introductory Greek book, in which the case endings of nouns and the personal endings of verbs are typically among the first things dealt with, while discussion of tense, aspect, adjectival comparison, etc., comes later.

In their function, degree of systematization, etc., non-inflectional formants (Goodwin and Gulick 1930:182-90) occupy an intermediate place between the lexicon as a whole and inflections proper. Examples include agentive -τηρ- and -τη-, formants for abstract nouns such as -τι-, -σι-, -μη-, -μο-, patronymic -ιδη-, adjectival -ικο-, -νο-, -λο-, and verbal -αυ- and -ιζ- (probably this last was phonetically [izd], phonemically /isd/). To these various non-inflectional formants, we should also add some dozen or so adverbial endings (Goodwin and Gulick 1930:90-2), since at least in Greek, adverbs clearly belong here rather than among inflectional endings per se⁹. Aside from the basic adverbial ending -ως, which might well be considered a Level I inflectional ending (and which fits into our scheme phonologically, inasmuch as *ς* is an important Level I consonant), all other adverbial "inflections" are used only with special types of words (place-names, other locations, numerals, names of languages, etc.), rather than with all adjectives or substantives generally. Examples are allative -δε (Σπάρτην-δε "to Sparta", οὐκὰ-δε "homeward"), distributive -κις (τετρά-κις "four times"),

⁹Cf. Goodwin and Gulick (1930:90) on the non-inflectional nature of many adverbial "endings" in Greek: "In many instances the stems are no longer in use as separate words, the adverbs being crystallized forms and not felt to be inflections".

and the formants in ἑλλην-ιστί "(to speak) in Greek" and πλουτ-ύνδην "(to assign offices) by wealth".

These two categories of non-inflectional formants and adverbial endings may be grouped together as Level III formants. Taking the two types together, we find that the consonants represented are /d, t^h, k, l, m, n, r, s, t/. I.e., all of the consonants from our previous lists are included, along with /d, l/ (cf. Chart I).

3. An Explanation in Terms of Frequency:

Two complementary effects in the overall pattern of frequency of Greek consonants result directly from the facts thus far discussed. There is (1) a preponderance of /n, s, t/, etc. in any running text, while (2) in the lexical items per se (words without inflectional and derivational formants), things are more evened out. This is a priori evident, since *only* /n, s, t/, etc. occur in inflectional endings; however, it may also be helpful to illustrate this specifically through Charts II and III, which are based on a count of the consonants in the first 17½ Oxford pages of Plato, *Symposium* (10,000 consonant phonemes all together). Chart II tabulates the occurrences of consonants according to their use in various morphological categories and in lexical items per se. In addition to the various inflectional and derivational levels already discussed, Chart II also lists separately two other classes of phoneme-occurrence which are probably best considered apart from the lexicon as a whole, viz., (1) movable consonants (e.g., /n/ in ἐστὶν ἀγαθός "is good" vs. ἐστὶ καλός "is beautiful") and (2) /h, t/ in the stem of the definite article ὁ, ἡ, τό "the". In Chart III, three different rankings in terms of frequency are presented, with both individual and cumulative percentages in each instance.

The trends in frequency which are tabulated in Charts II and III suggest that the pattern of restriction in Greek inflectional consonants may be explained as tending to reconcile two potentially conflicting desiderata.

Chart II. Frequency of occurrence of consonant phonemes on various inflectional levels, etc., in Plato, *Symposium*, 172a1-184e2 (through τούτων)¹⁰:

	mov- able con- son- ants	stem of art- icle	Ia, nom- inal	Ib, ver- bal	II, comp.; non- asp., tense, mood	III, inf. form., adv. se ends.	Lex- ical items per se	Total
/b/	--	--	--	--	--	--	76	76
/g/	--	--	--	--	--	--	328	328
[ŋ]	--	--	--	--	--	--	40	40
/d/	--	--	--	--	--	35	471	506
/t ^h /	--	--	--	84	15	19	175	293
/k/	12	--	--	--	13	24	620	669
/l/	--	--	--	--	--	--	615	615
/m/	--	--	--	121	--	21	422	564
/n/	52	--	493	396	26	39	746	1752
/p/	--	--	--	--	--	--	652	652
/r/	--	--	--	--	28	31	662	721
/s/	12	--	530	153	134	160	489	1478
/t/	--	273	--	180	79	108	802	1442
/p ^h /	--	--	--	--	--	--	161	161
/k ^h /	8	--	--	--	--	3	164	175
/h/	--	75	--	--	--	--	453	528
Total	84	348	1023	934	295	440	6876	10000

¹⁰Three Greek consonantal graphemes are not represented in this chart, since I have taken them as standing for consonant clusters (ζ as a combination of /s/ and /d/, ξ as /ks/, and ψ as /ps/). For the benefit of those who may be interested in the frequencies of Greek graphemes rather than phonemes (e.g., solvers of Greek cryptograms?), I list here the overall figures for the occurrence of the various graphemes which are affected by my analysis: δ 469, ζ 37, η 622, ξ 47, π 635, σ 1377, φ 17. It should be noted also that all occurrences of [ŋ] are written in Greek as γ, which brings its total up from 328

Chart III. Rank order of consonants in (a) total sample from Plato, (b) sample with exclusion of all inflectional and derivational occurrences, and (c) sample with exclusion of all inflectional and derivational occurrences, movable consonants, and occurrences in definite article:

	(a)	per-	cum.		(b)	per-	cum.		(c)	per-	cum.
		cent	per-			cent	per-			cent	per-
			cent				cent				cent
/n/	1752	17.5	17.5	/t/	1075	14.7	14.7	/t/	802	11.7	11.7
/s/	1478	14.8	32.3	/n/	798	10.9	25.6	/n/	746	10.8	22.5
/t/	1442	14.4	46.7	/r/	662	9.1	34.7	/r/	662	9.6	32.1
/r/	721	7.2	53.9	/p/	652	8.9	43.6	/p/	652	9.5	41.6
/k/	669	6.7	60.6	/k/	632	8.6	52.3	/k/	620	9.0	50.6
/p/	652	6.5	67.1	/l/	615	8.4	60.7	/l/	615	8.9	59.6
/l/	615	6.2	73.3	/h/	528	7.2	67.9	/s/	489	7.1	66.7
/m/	564	5.6	78.9	/s/	501	6.9	74.8	/d/	471	6.8	73.5
/h/	528	5.3	84.2	/d/	471	6.4	81.2	/h/	453	6.6	80.1
/d/	506	5.1	89.3	/m/	422	5.8	87.0	/m/	422	6.1	86.3
/g/	328	3.3	92.6	/g/	328	4.5	91.5	/g/	328	4.8	91.0
/t ^h /	293	2.9	95.5	/t ^h /	175	2.4	93.9	/t ^h /	175	2.5	93.6
/k ^h /	175	1.8	97.2	/k ^h /	172	2.4	96.2	/k ^h /	164	2.4	96.0
/p ^h /	161	1.6	98.8	/p ^h /	161	2.2	98.4	/p ^h /	161	2.3	98.3
/b/	76	0.8	99.6	/b/	76	1.0	99.5	/b/	76	1.1	99.4
[ŋ]	40	0.4	100.0	[ŋ]	40	0.5	100.0	[ŋ]	40	0.6	100.0
	10000				7308				6876		

to 368. Out of the 40 occurrences of [ŋ] in this sample, 25 represent underlying /n/ and 15 represent underlying /g/.

In any analysis along the lines of Chart II, there must probably be some arbitrariness about the assignment of phonemes to one or another of columns Ia, Ib, etc. In the case of pronouns, I have counted endings as inflectional if they are part of a regular pattern, but not if they are essentially isolated; thus, gen. ἡμῶν "of us" is treated as containing the ubiquitous gen. pl. ending -ων, while dat. ἡμῖν "to us" is not analyzed as containing any inflectional consonants, since it is not readily identifiable with any regular nominal inflectional pattern. In

The one desideratum is that some phonemes (such as /n, s, t/) should be distinctly more frequent than others. The reasons for this do not seem to be entirely understood, but significant variation in the frequencies of phonemes is an obvious way of achieving the redundancy necessary for effective communication in natural languages (cf. Kahn 1967:743-6). An acceptable degree of redundancy *could* be achieved with all phonemes being used with very much the same, relatively low frequency; however, this theoretical possibility seems to be avoided in real languages. In Indo-European languages, the apicals (dentals or alveolars) seem regularly to be the most frequent consonant phonemes¹¹. Some other languages show quite different preferences, but nevertheless they show preferences. Hawaiian, for example, lacks apical oral stops, and uses /n/ with only middling frequency; nevertheless, there is a striking range between the most frequent and least frequent consonants of Hawaiian, according to Paolo Comba in Pukui and Elbert (1965:xix),

a few respects, I have departed from the analysis of Goodwin and Gulick. Thus, I have treated /n/ and /sk/ in verb forms such as *πυθάνεσθε* "you (pl.) inquire" and *ὑπεραποθνῆσκειν* "to die on behalf of" as part of the lexical items per se, rather than as Level II inflections (as would be indicated by Goodwin and Gulick 1930:145). Also, I have treated /l/ in *δῆλος* "clear, evident" and *φάυλος* "slight, paltry" as lexical rather than derivational, as one perhaps might. On the other hand, I have treated *-αχῆ* in *πολλαχῆ* "in many ways" as a Level III derivational morpheme, although this is not listed under either adverbial or derivational formants by Goodwin and Gulick. On the whole, all these points make little difference (the occurrences of /n, s, k/ in present formations in the Plato sample total only six or seven for each consonant, and there are only three occurrences of Level III /k^h/). It may, however, be worth noting that adverbial *-ως* occurs often -- 58 times all together. If these occurrences of *-ως* are moved from Level III to some other place (e.g., Level Ia), appropriate adjustments should be made in the various totals for /s/.

¹¹Examples are the figures gathered from various sources in Herdan (1966:31) for English, Italian, and Czech, along with figures presented by Meier (1967:252) for German and by Whitney (1889:26) for Sanskrit. According to these various counts, the four most frequent consonant phonemes in order in the various languages are as follows: English /n, t, r, s/, Italian /l, r, n, t/, Czech /s, l, t, n/, German /n, r, t, d/, and Sanskrit /t, r, v, n/.

where the following percentages of occurrence are listed: /k/ 10.1, /l/ 7.5, /n/ 5.7, /ʹ/ 5.2, /h/ 4.8, /m/ 3.7, /w/ 2.5, /p/ 1.5 (with consonants constituting 41% of all phonemes in a running text)¹².

Another desideratum, potentially in conflict with the attainment of significant variation in frequency among the phonemes of a language, is that *all* of the language's phonological resources should be adequately utilized, so that speakers can express many different shades of meaning within any particular semantic area.

Both desired results can be reconciled by (1) having a wide variety of phonological possibilities open in the lexicon, while (2) the phonemes which actually turn out to be most frequent in any particular language are distinctly overrepresented on the derivational and inflectional levels.

In Greek, for example, the general idea of combustion can be expressed by the verbs καίω "burn, set on fire", πύμπρημι "kindle, set on fire", δαίω "light up, cause to blaze", φλέγω "burn, blaze", etc. Even on this, the semantic or lexical level, some phonemes appear with greater frequency than others (cf. the figures under (c) in Chart III), but except for the distinctly low frequency of a few phonemes, viz., /g, t^h, k^h, p^h, b/, there is a fairly balanced representation of the entire Greek phonological system¹³. The inflections and other derivational formants which can be applied to these words, though, show a much more limited phonological repertoire, and thus build up the proportion of various specific consonants, mainly apicals, in any Greek

¹²Another instance of a language in which the most frequent consonants, by and large, are not the apicals is Kaiwa (a dialect of the South American language Guaraní). According to Loraine Bridgeman apud Sigurd (1968:3), the four most frequent consonants in Kaiwa in order are /r, b, p, h/.

¹³In column (c) in Chart III, the first 10 out of 15 consonant phonemes show a range from just 11.7% to 6.1%; i.e., /t/ in first place is 1.9 times as frequent as /m/ in tenth place. In column (a), on the other hand, the first 10 out of 15 consonants range from 17.5% down to 5.1%; i.e., /n/ in first place is 3.4 times as frequent as /d/ in tenth place.

text: καί-ομεν "we burn", καί-ετε "you (pl.) burn", καί-οντες "burning" (nom. pl. masc.), καυ-στικός "caustic", καυ-στήρ "cauterizing implement", etc.

4. An Explanation in Terms of Semantic Independence or Freedom of Occurrence:

Although we may have made a step in the right direction, the bare numerical facts as just interpreted cannot be the whole story. A serious objection to any explanation in terms of frequency alone is provided by prepositions and particles. These are typically words of high frequency, and they would therefore seem to be as good a way as inflectional endings for building up the proportion of /n, s, t/, etc. in any running text. As it happens, though, neither group of words shows any very great tendency in this direction. Important Greek prepositions like ἀμφύ "about, around", ἀπό "away from", ἐκ/ἐξ "out of", διά "through", περὶ "concerning, about", and πρὸς "toward" show consonants such as /p^h, p, k, d, r/, which do not appear in Level I inflections. The same problem arises also with particles such as δέ "and, but", γάρ "for, because", and γε "indeed", with /d, g, r/, etc.¹⁴ (Similarly, the important English prepositions *of*, *from*, *for*, *by*, *with* include non-inflectional /v, f, m, b, w, θ/.)

The relative unimportance of frequency alone as an explanation in Greek is also shown by the fact that many inflectional endings are ac-

¹⁴For Greek prepositions, see Goodwin and Gulick (1930:254-62); for particles, see Denniston (1966). Actually, there do seem to be some restrictions on the phonology of these words, particularly with respect to the types of clusters which are permitted (primarily just (1) nasal plus stop and (2) stop plus /r/, in contrast to the more varied types of clusters which appear in lexical items such as ἀλκή "strength", ἐσθλός "noble", etc.). However, any such restrictions on the phonological patterns of prepositions and particles are clearly a different sort of thing from the absolute absence of /g, k^h, p, p^h, b/ from inflectional and derivational morphemes.

tually much less frequent than prepositions and particles. For example, in the sample from Plato used for Chart II, we find the following frequencies for various prepositions and particles: *περί* 15, *πρός* 11, *γάρ* 50, *γε* 15; in contrast, 1st sing. *-μην* occurs only twice, 2nd sing. *-(σ)θα* occurs only once, and dual endings such as *-ουν*, *-σθον*, *-σθην*, and *-σθων* do not occur at all.

Rather than in terms of frequency, the gradation between different levels of phonological restriction can better be explained as reflecting the relative independence of various morphemes. The more circumscribed the choice of a particular morpheme is by grammatical and syntactical considerations, the more restricted the range of permitted phonemes, and vice versa.

The general principles which I have in mind can first be illustrated from English. At the one extreme, both semantically and phonologically, we have the words denoting semantically independent concepts such as *burn*, *scorch*, *come*, *up*, *down*, *tree*, *maple*, etc. At the other extreme, most constrained by other elements in the sentence, and also most restricted phonologically, are endings such as *-s*, *-ed*, *-en*, *-ing*, *-ly*, etc. The one group ranges from the relatively specific (*burn*, *scorch*, *maple*, etc.) to the very general (*come*, *up*, *down*, etc.), but the occurrence of any such morphemes is in general not dictated by grammatical or syntactical considerations. The speaker of English may perfectly well say *scorch* or *explode* or *catch on fire* instead of *burn*, and each different verb will convey a distinctly different message. In contrast, little if any semantic distinction can be correlated with the grammatical difference between (1) *I saw the grease catch on fire* and (2) *I saw the grease catching on fire*.

Similarly, the difference between *up* and *down* or *to* and *from* seems intuitively fundamental (despite the notorious multivalency of prepositions), in a way that purely inflectional endings are not.

To be sure, some grammatical distinctions do correspond quite precisely with differences in the real world. For example, the contrast between singular and plural can be pinned down much more precisely than

the difference between *burn*, *scorch*, and *sear*. Nevertheless, I think such a grammatical difference fits into our scheme well enough, as reflecting a semantically secondary distinction. Despite the potentially great difference between (1) *Laios was killed by robbers* and (2) *Laios was killed by a robber* (cf. Sophocles, *Oedipus Tyrannus*, 842-7, etc.), the effects of the two sentences seem intuitively closer to each other than either is to (3) *Laios was killed by Oedipus*, or (4) *Laios was killed by his son*.

Inflectional endings of course play a much larger role in Greek than in English. Otherwise, though, the situation with respect to the relative independence or dependence of various morphemes is similar in the two languages. In Greek, the complement of a verb such as φημί "say", λέγω "say, speak, report", νομίζω "think", οἶδα "know", or ὁράω "see" can be a clause with ὅτι and the indicative, or an infinitive or a participle, depending on the introductory verb and various stylistic factors. Λέγω is regularly used with ὅτι; φημί and νομίζω take the infinitive; οἶδα takes the participle; and ὁράω can take all three constructions (although the infinitive is rare with this verb). In reporting an idea such as "Pausanias stopped" or "Pausanias ceased" there will therefore be various possible forms for both the noun and the verb: λέγω ὅτι Πausανίας ἐπαύσατο "I say that P. stopped", νομίζω Πausανίαν παύσασθαι "I think that P. stopped", οἶδα Πausανίαν παυσάμενον "I know that P. stopped", etc. The three sentences differ in various ways, but the crucial difference is whether one has λέγω, νομίζω, or οἶδα. Semantically, it is quite secondary what Level Ia ending the noun has (-ς or -ν), or what Level Ib ending the verb has (-το, -σθαι, or -μενον). In fact, the choice of one grammatical form or another in these particular examples is almost as much automatic as is the appearance or non-appearance of movable /n, s, k/ in ἐστύ(ν), οὔτω(ς), οὐ(κ), etc.¹⁵

¹⁵Anyone who is the least familiar with Greek will immediately recognize that in an important sense I have overstated the case for the semantically secondary nature of the various Level Ia and Ib end-

Morphological Levels II and III, which lie between inflectional endings and the general lexicon, likewise possess an intermediate degree of syntactic and grammatical independence, corresponding exactly to the intermediate degree of phonological diversity which they exhibit.

The agent nouns, abstract nouns, patronymics, denominative verbs, distributive adverbs, etc. of Level III *can* be replaced with various periphrases. Instead of ποιη-τής "poet", one can say ὅς ποιεῖ "he who makes" or ὁ ποιήσας "the one who has made". Instead of Ἀτρεΐδης "son of Atreus", one can say Ἀτρείος υἱός (same meaning). In each instance, though, the word with the derivative formant (ποιητής, etc.) has a distinctly different "feel" from the periphrasis. As a result, it will tend to remain the same through variations in grammatical and syntactical structure, rather than being replaced by any theoretically possible periphrasis. Ποιητής, for example, is specifically "poet" or "creative artist", rather than simply "maker". Ἀτρεΐδης may be glossed in the same way as Ἀτρείος υἱός, but it is really a word in its own right, with a certain heroic aura about it; consequently, it is overwhelmingly the form used in Homeric epic, occurring 162 times in the *Iliad*, while the genitive phrase occurs only 12 times.

In Section II, we set up a contrast between Level I and Level II

ings. On Level Ia, for example, the difference between /s/ and /n/ signals the important difference between nominative and accusative. Consequently, alternative sentences with /n/ in place of /s/ (and vice versa) will have quite different underlying structures, and in this way will be semantically quite different. The alternative sentence (1a) λέγω ὅτι Πausανίας ἐπαύσατο is odd, but presumably means something like "I say that he (≠ P.) stopped P. for himself". Sentences (2a) νομίζω Πausανίας παύσασθαι and (3a) οἶδα Πausανίας παυσάμενος are both perfectly straightforward Greek sentences, with the meanings "I, P., think that I stopped" and "I, P., know that I stopped". The important point, though, is not whether these alternatives make sense, but rather that in the three sentences in the text (glossed "I say/think/know that P. stopped"), the choice of construction in Greek and the corresponding choice of ending on the noun Πausανια- depends solely on the introductory verb (λέγω, νομίζω, or οἶδα), rather than on any semantic difference between the various ways of expressing the dependent clause "P. stopped".

inflectional formations primarily on the basis of how the various formants were presented by Goodwin and Gulick (1930). We may now see more clearly the fundamental difference between the two levels -- and in the process see why the participle is properly placed in Level I rather than Level II.

As one varies the grammar of a sentence, Level II formants exhibit a much greater stability than is shown by Level I endings. The sentence *Socrates is wisest* can (among other modifications) be replaced by indirect statements such as *The Delphic oracle says that Socrates is wisest* or *I think that Socrates is the wisest*, or by a clause such as *since Socrates is wisest*, In the original sentence, the words *Socrates* and *wisest* will both be nominative in Greek. In some forms of indirect statement, however, they will both be accusative, and one way of expressing the causal clause will be with a genitive absolute, with both forms in the genitive. In all three instances, though, the superlative formant will be essentially the same: nom. σοφώ-τατό-ς, acc. σοφώ-τατό-ν, gen. σοφω-τάτ-ου. An exactly parallel phenomenon appears in the sentences given earlier to illustrate the various complements for verbs of saying, thinking, etc. The three forms for "stopped" used then were ἐ-παύ-σα-το, παύ-σα-σθαί, and παυ-σά-μενο-ν, with three different Level I formations to signal indicative, infinitive, and participle respectively. In all three instances, though, there is a constant Level II formant (aorist -σα-).

A distinctly troublesome complication to our analysis connecting the overall phonological pattern of different classes of formants with their relative semantic independence or dependence is presented by the category of person in verbs (as well as by verbal number). Obviously, the change from σοφώτατος εἰμι "I am wisest" to σοφώτατός εἶ "you (sing.) are wisest" makes a good deal of difference to what the sentence means -- as much difference, in fact, as is made by the choice of σοφο- "wise" instead of βραδυ- "slow, dull, stupid" or ἀπό "away from" instead of εἰς "into". Yet, there can scarcely be any doubt that we should include the personal endings of verbs, along with the endings of nouns, in a

more fundamental category of inflection than the markers for verbal aspect, tense, and mood¹⁶.

In considering this problem, it is important to recognize that in any conversational interchange, the personal endings of verbs do change in a way which is much like the shifts in inflection which are occasioned by shifting from direct statement to indirect statement to causal clause, etc. I.e., what Speaker A refers to as "I" -- using in Greek the endings -ω, -υ, -α, -μαι, -μην, etc. -- will be "you" for Speaker B -- with the endings -εις, -ς, -ε, -σαι, etc. Consequently, it is reasonable that the personal endings on verbs should show a distinctly limited repertoire, just like other inflectional categories whose appearance in a sentence is heavily determined by the grammatical and syntactical context.

It is also significant that Greek has the option of using independent pronouns to express the subject of a sentence or some clauses, such as ἐγώ "I", σύ "you (sing.)", ὅδε "this one, he", etc. These independent subject pronouns are used for emphasis or contrast, or when there is a need for particular clarity. As such, the subject pronouns are independent semantic indicators, much like any other part of the lexicon. We might therefore expect to find a full phonological range exhibited in them, just as we do in the lexicon of Greek as a whole. This expectation is fully borne out in forms such as ἐγώ "I", ἡμεῖς "we", ὅδε "this one, he", ἐκεῖνος "that one, he", etc., with consonants which do not appear in Level I inflections: /g, h, d, k/. The personal endings themselves, though, are more or less automatically determined

¹⁶It might seem that the separation of nominal and verbal inflection into Levels Ia and Ib would be adequate to deal with this difficulty, inasmuch as verbal person appears on the phonologically more complex Level Ib. This is not, however, particularly satisfactory, since nominal and verbal endings alike are crucial in Greek morphology; cf. the figures in Chart II, where the totals on both levels are about the same (1023 consonant phonemes in Level Ia and 934 consonant phonemes in Level Ib, as against a total of 735 consonant phonemes in Levels II and III together).

by the grammatical structure of any particular discourse, and appear whether or not there is any particular need for emphasis, contrast, or clarity. As forms thus heavily circumscribed by the surrounding grammatical structure, they are therefore properly classed as Level I inflections and show a correspondingly restricted phonology.

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SOME CHARACTERISTICS OF MODERN COLLOQUIAL WELSH
(CYMRAEG BYW)

ROBERT A. FOWKES
New York University

Er cof am JAK -- Sgolor mawr,
Celt pybyr, Athro disglair,
Dyn da

Among the languages that fascinated J. Alexander Kerns, the Celtic tongues occupied an important place in his esteem and in his study. His "informal" (= unpaid) sessions on Gaulish, Irish, and Welsh revealed the same depth of knowledge and vast scope of mastery as were evinced in Latin, Greek, Hittite, Turkish, Hungarian, and all the rest; and his enthusiasm for Celtic was, non-chauvinistically, enhanced by ethnic connections. It was in a seminar of his that I first heard the designation of the Celtic peoples as the "lenited nations", although he, with his customary modesty, embarrassedly denied authorship later on. In his series of concise and intelligently ordered grammars of many languages (still unpublished) there was a sketch, as he called it, of Welsh. It was, however, a grammar of modern literary Welsh. When he suggested on one occasion that Welsh might be the only language to preserve the *-nt* of the third plural of verbs (whether from secondary *-nt* or primary *-nti* in Indo-European), I questioned the validity of the claim. He replied that some languages admittedly retain the *nt* orthographically -- French, for example -- but that they do not actually have those sounds phonetically present. He was somewhat amazed, if not disappointed, at the statement that this also applies to spoken Welsh,

apart from some hyper-conservative utterances from the pulpit and in certain traditional singing, and that a verb that is written *canant* "they sing, will sing" is spoken without the final *-t*. After looking into the features of colloquial Welsh and consulting with native speakers, he stated that there seems to be a greater gap between the written and spoken forms of Welsh than is found in those of any other country in Europe. He obviously was not referring to dialects.

In recent decades a type of Welsh has developed and has become more and more accepted by "educated speakers" as something very close to a standard form of the spoken language, called *Cymraeg Byw*, "living Welsh". Promulgated by no governmental agency or similar directing body, it is nevertheless being taught in numerous courses, including "crash" courses and Ulpan (*ŵlpan*) classes. It is the language presented in most recent grammars and instructional books on spoken Welsh. It is the language used in Welsh-speaking Wales every day and in all those organizations and societies that conduct their activities in Welsh. It is understood in both North and South Wales, although each area inevitably has its own particular "flavor" (intonation, pronunciation of vowels and diphthongs, and a limited number of special lexical items). This paper will look at some of the directions taken by *Cymraeg Byw* in the adjective, noun, verb, and numerical system.

The Adjective

The term *Cymraeg Byw* conceivably incorporates a slap or two at conventional Welsh, first by implying that the latter may, in a sense, be "dead"; moreover the absence of lenition of *b-* in the adjective *byw* (theoretically mandatory after the feminine noun *Cymraeg*) may be an intended avoidance with ulterior motives. **Cymraeg Fyw* is the expected form. This is somewhat surprising, because "Living Welsh" itself does not abandon mutation in most such cases. There has, to be sure, been a vacillation of initial *b-* in some adjectives following feminine nouns; for example, *bach* "small, dear". In North Welsh, *bach* has been tradi-

tionally "unmutated" after a fem. sing. noun, although the synonymous *bechan* is not thus exempt. The South has preferred the lenited form *fach* in all such instances. It would not have been surprising if Living Welsh had cancelled this mutation for all words with initial *b*, but that has not happened.

In the comparison of adjectives, recent colloquial Welsh permits forms that are still regarded as erroneous (or even "illiterate") by conservative speakers. There are four degrees of comparison in Welsh: positive, equative, comparative, and superlative. The last three of these have, even in literary Welsh, analytic alternatives to the (historical) synthetic formations, for example:

Positive	Equative	Comparative	Superlative
<i>cryf</i>	<i>cryfed</i> or <i>mor gryf</i>	<i>cryfach</i> or <i>mwyr gryf</i>	<i>cryfa(f)</i> or <i>mwya(f) cryf</i>
"strong"	"as strong"	"stronger"	"strongest"

The analytic formations obviously use separate words for "as", "more", and "most" in the equative, comparative, and superlative, respectively. The equative requires lenition of following susceptible initial consonants, whereas the comparative and superlative do not. Levelling has not occurred. The chief adjectives with irregular comparison (subsequently levelled) are, in literary Welsh:

<i>hawdd</i> "easy"	<i>hawsed</i> "as easy"	<i>haws</i> "easier"	<i>hawsaf</i> "easiest"
<i>anodd</i> "hard"	<i>anhawsed</i>	<i>anos</i>	<i>anhawsaf</i>
<i>hen</i> "old"	<i>hyned</i>	<i>hŷn/hynach</i>	<i>hynaf</i>
<i>hir</i> "long"	<i>cyhŷd</i>	<i>hwyr</i>	<i>hwyraf</i>

In Cymraeg Byw these have become:

<i>hawdd</i>	<i>mor hawdd</i>	<i>hawddach/mwy hawdd</i>	<i>hawdda/ mwya hawdd</i>
<i>anodd</i>	<i>mor anodd</i>	<i>mwya anodd</i>	<i>mwya anodd</i>
<i>hen</i>	<i>mor hen</i>	<i>henach</i>	<i>hena</i>
<i>hir</i>	<i>mor hir</i>	<i>hirach</i>	<i>hira</i>

Oversimplified statements in the grammars have often stated that, in literary Welsh, the choice between synthetic and analytic formations in adjective comparison depended on the length of the adjective in the positive, short ones taking synthetic forms and larger ones, analytic (cf. English *small*, *smaller*, *smallest*; *beautiful*, *more beautiful*, etc.). That this was not quite true, even for literary Welsh, is shown by the example *cryf*: *mwya cryf*. (A "minus comparison" : *cold*, *less cold*, *least cold* is, as in English, analytic exclusively, and the equative is not frequent.)¹

The abolition of suppletion and its replacement by forms based on analogical extension of the positive has not met with universal approval, and some speakers of Cymraeg Byw shun forms like *hirach*, *hira* ("longer, longest") with the same sort of aversion as might be shown to *good*, **gooder*, **goodest* in English. With considerable elasticity, Cymraeg Byw allows for this conservative retention when desired. Since most instruction books state that there is such a choice, learners have often been dismayed and would presumably prefer a dictatorial imposition of one specific form. But Cymraeg Byw was not -- and is not -- something devised by a committee aiming to provide a neatly regular language, with no exceptions of any kind, for the purpose of teaching beginners. It has, rather, developed organically from real spoken Welsh, and the kinds of reductions of irregularities found in it are already present, for the most part, in spoken varieties of Welsh.

In a limited number of adjectives literary Welsh has separate forms for masculine and feminine, for instance, *gwyn* m., *gwen* f. "white"; *sych*

¹*Gramadeg Cymraeg Cyfoes*, p. 15.

m., *sech* f. "dry". The vowel alternation reflects the nature of the ancient ending (in Proto-Brythonic, Celtic, etc.). Thus *gwyn* represents **uindos*, and *gwen* **uindā*. And *syched*/*sech*, while borrowed from Latin, result from a similar variation (*siccus* m., *sicca* f., although it was not likely that the nominative case was the actual source).² Since most Welsh adjectives now have, presumably as a result of the operation of analogical processes, identical forms for masculine and feminine, the spoken language has lost most of the old special forms for the feminine and replaced them by the masculine. Nevertheless, the feminine forms still persist in a certain number of expressions and combinations, and Cymraeg Byw retains them, for example: *gafr wen* "a white goat" (m. *gwyn*), *geneth fechan* "a little girl" (m. *bychan*), etc.³ The retention of these exceptional feminine forms seems to be aided and abetted by their occurrences in geographical names (*Afon Wen* "White River", *Llanfairfechan* "Little Chapel of St. Mary", etc.), in well-known songs, and in other more or less indelible contexts. Interestingly enough, Jones and Thomas⁴ found some of these feminine adjectives in "spontaneous speech" but did not hear such instances as *cath wlebb* "wet cat", *gardd sech* "dry garden", or *afon seth* "straight river"; instead the feminine nouns cited were heard with masculine adjectives: *cath wlyb*, *gardd syched*, *afon syth*. Yet the identity of *cath*, e.g., as feminine is attested by the lenition of *gwlyb* to *wlyb* (via prehistoric **u̯ul-*). Mutation thus seems less vulnerable than internal vocalic alternations. And gender, for all its lack of logic in Welsh, is not readily abandoned or levelled.

Nouns

²Jones and Thomas, pp. 188-9; Morris-Jones, *Welsh Grammar*, pp. 238-9. Most such adjectives will have *w* or *y* in the m., alternating with *o* and *e*, respectively, in the f.

³*Gramadeg Cymraeg Cyfoes*, p. 14.

⁴Jones and Thomas, p. 187.

The main complications in Welsh nouns concern the formation of the plural. Case distinctions do not exist, save for unrecognized vestiges. There are at least seven classes of Welsh nouns based on plural formation, and one or two of these have subdivisions (combining a suffix with an internal vowel change, for example). These seven have all been retained in contemporary spoken Welsh. In addition to them, the use of English plural *-s* and its Welsh variant *-ys* has spread, although mostly in loanwords: *tomatos*, *bananas*, *bois*; *nyrsys* ("nurses"). The *s* is, incidentally always voiceless in these words.

By far the greatest number of Welsh nouns, lexically and contextually, have the plural ending *-(i)au* in literary Welsh. This is still true morphologically, but not phonetically. That ending is "realized" as *-e* in South Wales and as *-a* in most of North Wales. Cymraeg Byw effects the possibly strange compromise of retaining the traditional spelling *-au* (or *-iau*), and each section pronounces the element in its own fashion. (There seems to be no difficulty of comprehension in any case.)

The Verb

For a number of centuries there have existed, side by side, two sets of conjugations in Welsh: (1) a synthetic set of tenses, Pres.-Fut., Imperf., Aorist, Pluperf., etc., less richly represented in the subjunctive than the indicative, and (2) a periphrastic substitute for most of the tenses mentioned. The periphrastic is made from tenses of the verb "to be" plus various prepositions followed by the verbal noun. It would be theoretically conceivable, although in some situations awkward (because of aspectual situations and the like) to avoid all of the inflected forms of the verb and to speak Welsh using the periphrastic alone. I have met people who do this (Welsh was never their first language, however). In modern colloquial practice the favoring of the periphrastic continues, but none of the conjugated tenses can really be said to have been abandoned. The old Present-Future of the conjugated

verb has practically become future only, but this constitutes no formal loss. Within the conjugated forms themselves there has, to be sure, been considerable analogical levelling. There has been resultant loss of distinctions in person, but the consequence is never drastic, since the personal pronoun is practically always expressed with the verb (in Cymraeg Byw).

We may briefly illustrate this with four tenses of the indicative of *canu* "sing" in literary Welsh and in Modern Colloquial Welsh (Cymraeg Byw):

		Pres.-Fut.	Imperfect	Aorist	Pluperfect
Literary:					
Sg.	1	<i>canaf</i>	<i>canwn</i>	<i>cenais</i>	<i>canaswn</i>
	2	<i>ceri</i>	<i>canit</i>	<i>cenaist</i>	<i>canasit/-ud</i>
	3	<i>can</i>	<i>canai</i>	<i>canodd</i>	<i>canasai</i>
Pl.	1	<i>canwn</i>	<i>canem</i>	<i>canasom</i>	<i>canasem</i>
	2	<i>canwch</i>	<i>canech</i>	<i>canasoch</i>	<i>canasech</i>
	3	<i>canant</i>	<i>canent</i>	<i>canasant</i>	<i>canasent/-ynt</i>
Colloquial:					
Sg.	1	<i>cana</i>	<i>canwn</i>	<i>canes</i>	<i>canswn</i>
	2	<i>cani</i>	<i>canet</i>	<i>canest</i>	<i>canset</i>
	3	<i>caniff/-th</i>	<i>canai/-e</i>	<i>canodd</i>	<i>cansai/-e</i>
Pl.	1	<i>canwn</i>	<i>canen</i>	<i>can(s)on</i>	<i>cansen</i>
	2	<i>canwch</i>	<i>canech</i>	<i>can(s)och</i>	<i>cansech</i>
	3	<i>canan</i>	<i>canen</i>	<i>can(s)on</i>	<i>cansen</i>

The loss of the final *-f* (phonetically *v*) of the first singular is characteristic of modern phonological development; similar loss is encountered in superlative adjectives, in nouns, in certain numerals, etc. The ending of the third plural in all tenses constitutes orthographical recognition of the fact that final *-nt* was long ago simplified to *-n* in spoken Welsh. This results in homonymy of the first and third plural

in three of the tenses treated; but, as has been said, the personal pronoun practically always accompanies the verb, and ambiguity does not occur. The vowel of the base *can-*, which undergoes an umlaut-like change in many literary forms, one which, historically, should have been even more frequent, has become unified in colloquial Welsh, with *a* prevailing as the sole one. The internal *-s-* of the aor. pl. (originally *-ss-*) seems to be on the way out, but the *s* of the pluperfect is persistent, no doubt because it is the only feature to distinguish pluperfect from imperfect. All trisyllabic verb forms of literary Welsh have been reduced to two syllables.

The one mystery which, on the face of it, looks like an increase in difficulty is seen in the third person singular pres.-fut., where literary Welsh has a short form *can* but the colloquial form is *caniff* in South Wales and *canith* in North Wales. A few rare forms in *-ff* do occur in Middle Welsh which may be the source of the modern *-ff*, although this is far from certain. Nevertheless the dialects must contain the explanation of this somewhat unusual form of the third pers. sing. That person and number is, incidentally, an over-worked member of the paradigm, since all plural nouns in Welsh take a third singular verb.

The colloquial past tense of *bod* "to be" is noteworthy, especially in contrast to the corresponding tense in literary Welsh (in the latter it is a perfect).

	Literary:	Colloquial:
Sg. 1	<i>bŷm</i> (earlier <i>bu-um</i>)	<i>bues</i>
2	<i>buost</i>	<i>buest</i>
3	<i>bu</i>	<i>buodd</i>
Pl. 1	<i>buom</i>	<i>buon</i>
2	<i>buoch</i>	<i>buoch</i>
3	<i>buant/-ont</i>	<i>buon</i>

This tense in modern Welsh looks as if it were put together out of scraps of two or more other tenses. The one person that agrees in both (as so often) is the second plural. The first and third plural develop normally enough from the literary forms (of the perfect). But the first singular seems to replace the old perfect ending (itself analogical) with the ending of the aorist, not of *bod* "to be", but of the regular verb. The second singular (unlike the plural forms) altered the *-ost* to *-est* (again by analogy with the aorist), and the third singular seems to add the aorist ending (of regular verbs, once more) to the old perf. *bu*. Many people of traditional background have considerable difficulty in accepting this tense in Cymraeg Byw.

Numerals

The numerals "two", "three", and "four" have separate forms for m. and f.: *dau* m., *dwy* f. "two"; *tri* m., *tair* f. "three"; *pedwar* m., *pedair* f. "four". These distinctions have been retained in the modern colloquial language, as they have in most dialects. There are characteristic mutations following some cardinal numerals (partly depending on linguistic history, partly analogical). Modern colloquial Welsh has kept some of these and seems to be gradually discarding others.

Un "one" causes lenition of the initial of feminine nouns following. *Dau* m. and *dwy* f. "two" both cause such lenition. In literary Welsh, *tri* "three" and *chwe* "six" are followed by fricative mutation (conventionally called "aspirate" mutation, with no great justification). Cymraeg Byw seems in the process of abandoning this mutation. Where literary Welsh demands *tri chi* (radical *ci*) "three dogs", Cymraeg Byw has *tri ci*, with no mutation. And this holds for most theoretically susceptible consonants (i.e., historically susceptible). Cymraeg Byw prefers the non-mutated form. For a few words, however, the fricative ("aspirate") mutation is kept: *tri pheth* (radical *peth*) "three things", *tri phen* (*pen*) "three heads", *chwe cheiniog* (*ceiniog*) "sixpence", also

tri chant (cant) "three hundred".⁵

The most drastic change in the Welsh numerals, however, has affected the entire method of counting. This has caused vehement opposition on the part of some traditionalists who are obviously proud of having mastered a highly complex system; but the new method is beginning to make it possible to teach mathematics and related subjects through the medium of the Welsh language, something that has not been very feasible under the old system. (I have known fluent speakers of Welsh who automatically switched to English when giving numbers, dates, and the like. A distinguished professor once read a page to me from a history of Welsh literature and read all dates in English, to my astonishment and dismay.)

A glance at the numbers from 11 to 22 (1-10 are the same in both literary and colloquial Welsh) plus a few others will illustrate what has happened. Masculine forms are given.

Literary Welsh:

- 11 *un ar ddeg* "one on ten"
- 12 *deuddeg* "two ten"
- 13 *tri ar ddeg* "three on ten"
- 14 *pedwar ar ddeg* "four on ten"
- 15 *pymtheg*
- 16 *un ar bymtheg* "one on fifteen"
- 17 *dau ar bymtheg* "two on fifteen"
- 18 *deunaw* "two nine"
- 19 *pedwar ar bymtheg* "four on fifteen"
- 20 *ugain*
- 21 *un ar hugain* "one on twenty"⁶
- 22 *dau ar hugain* "two on twenty"
- 50 *hanner cant* "half a hundred"
- 60 *trigain* "three score"
- 80 *pedwar ugain* "quatre-vingt"

Colloquial Welsh:

- un deg un* "one ten one"
- un deg dau*
- un deg tri*
- un deg pedwar*
- un deg pump*
- un deg chwech*
- un deg saith*
- un deg wyth*
- un deg naw*
- dau ddeg* "two ten"
- dau ddeg un*
- dau ddeg dau*
- pum deg/hanner cant*
- chwe deg* "six ten"
- wyth deg*

⁵Morris-Jones, *Welsh Syntax*, pp. 65-6; T. J. Morgan, *Y Treigladau a'u Cystrawen*, pp. 133-4. *Gramadeg Cymraeg Cyfoes*, p. 20.

⁶For the problem of the *h-* of *hugain*, see T. J. Morgan, *Y Treigladau*, p. 388.

In the system of literary Welsh a number like 97 assumes the (for some) grotesque form *dau ar bymtheg a phedwar ugain* "two on fifteen and four twenties". Cymraeg Byw has: *naw deg saith*.

Steps in the direction of simplification have long been seen in literary Welsh. In reading out the numbers of hymns, for example, it is customary to say, for 376: *tri chant saith deg (a) chwech* ("three hundred seven ten [and] six") instead of *trichant un ar bymtheg a thri-gain* ("three hundred one on fifteen and three score"), and similar reading of dates has long been employed even in formal style.⁷

* * *

Occasionally we encounter what looks like increased difficulty in colloquial Welsh as compared to the literary standard. The third sing. pres. ending of verbs (*-iff/-ith*) discussed above is a case in point. There are cases in which traditional Welsh does not have mutation in an expected place and colloquial Welsh has added or restored it. For instance, literary Welsh has *i mi* "to me", with no mutation, although the syntactic system would seem to demand it.⁸ The preposition *i* normally takes mutation (lenition) of *m* to *f* (phonetically *v*), cf. *i fferch* "for a girl" (radical *merch*). Cymraeg Byw here has *i fi*. In scores of songs and hymns Welshmen are accustomed to singing *i mi* (in the first line of the national anthem, e.g., which is sung very frequently: *Mae hen wlad fy nhadau yn annwyl i mi* "The old land of my fathers is beloved to me"), and, for some reason, they are not troubled by the apparent contradiction.

The "best" authors write *gan mwyaf* "for the most part"⁹ but Cymraeg

⁷Morris-Jones, *Welsh Grammar*, p. 260. Objections have been raised that *un deg un* for "11", and the like, are tantamount to saying "onety-one" in English.

⁸Morris-Jones, *Welsh Syntax*, p. 78.

⁹T. J. Morgan, *Y Treigladau*, pp. 261-2, 388.

Byw "restores" the mutation and has *gan fwyaf*, thereby acquiring an extra instance of mutation. It is conceivable that it is easier to lenite every such case than to have some (like *i mi* and *gan mwyaf*) that are exempt. In general, however, Cymraeg Byw simplifies complexities, irons out superfluous differences, and introduces ease of expression where difficulty once prevailed. That one can see ample room for further improvement in that direction is probably irrelevant to the procedure followed by Cymraeg Byw. For that procedure does not exactly constitute what is now called "language planning", although there are some similarities. This attempt at achieving a type of colloquial standard utilizes eclectically features already extant in the spoken language and its dialects. The writers of textbooks of this Cymraeg Byw do, in a sense, participate in an act of planning but not in an arbitrary or authoritarian way. Sometimes its proponents act as Martin Luther did, in that they listen for what is said in "spontaneous" spoken language. Once or twice they seem to invent or improvise. In a few regrettable instances English idiom is (unnecessarily) copied. But there is no escaping the statistical fact that Cymraeg Byw has, for thousands of people, paved the way to a knowledge of Welsh and has even made accessible to them all the resources of literary Welsh too.

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CONCERNING THE REPLY OF KERNS AND SCHWARTZ TO AUSTIN

JOHN A. C. GREPPIN
Cleveland State University

When Kerns and Schwartz prepared their paper "On the Placing of Armenian" (1942) in reply to Austin's "Is Armenian an Anatolian Language?" (1942), they were responding, quickly and accurately, to an article whose impact on Armenologists has remained significant for nearly four decades now. Not all the points raised by Austin, nor all the refutations offered by Kerns and Schwartz, are still relevant; however, the total effect of both papers, cumulatively, was and is significant. That this was recognized so at the time of publication is evident from the speed with which the editors of *Language* were willing to print the reply (just six months later). That it is still true is recognized from the citations in footnotes that both papers still receive. Few ideas have aroused so much excitement in Armenian studies since the time of Hübschmann.

Austin's paper came some fifteen years after Kuryłowicz's exposition of the relationship of de Saussure's theoretical laryngeal with the tangible Hittite h . The years between the statement of Kuryłowicz and Austin were not rich years for laryngeal studies. Sturtevant, almost alone, provided the principal impetus, contributing more than two dozen publications pertinent to laryngeal theory as he saw it. Additional comment came only from such scholars as Benveniste, Couvreur, Pedersen, and Petersen, to name those whose work can still be read with interest. Altogether, it was still a fallow time for laryngeal studies.

This paper will provide a contemporary assessment of the paper of Austin, and the paper of Kerns and Schwartz, placing their statements in the context of the present, some thirty-eight years removed from the publication of the original.

Austin's principal thesis was that Armenian and the Anatolian languages were intimately related. To support this he cited several isoglosses which he felt were particularly significant: the parallels where both Hittite and Armenian showed *h*; the similarity of an idiosyncratic ablative formation; rapport between the Armenian subjunctive in *-ic'ē* and the Hittite iterative in *-eške-*; the lexical isogloss of Arm. *nnjem* "to undress, go to bed" and Hitt. *nekuzi* "id"; and some comments on the vocalic system of each language. He closed with the statement that "both Lycian and Armenian should profit from a mutual comparison."

Kerns and Schwartz correctly rejected Austin's comments on long vowels, gender, and *-ic'ē/-eške-*; they found his reference to the *nnjem/nekuzi* isogloss insignificant. It was only in the area of the correspondence of Hitt. *ḫ* and Arm. *h* that they felt there was any real substance, though possibly the discussion of ablative formation had some small validity. As to the repositioning of Armenian out of the *satem* group, Kerns and Schwartz were only to say that the older view could not "be too easily brushed aside." It is exactly these non-dissenting views of Kerns and Schwartz that are still significant today. The origin of the Arm. *h* which parallels Hitt. *ḫ* is still under discussion; the source of the Armenian ablative in *-oy* and *-ē* has not yet been agreed on; and the position of Armenian within the Indo-European family is still debated. Let us first consider the parallels between Arm. *h* and Hitt. *ḫ*.

Austin cited Arm. *haw* "grandfather," Hitt. *ḫuhhaš* "id," Lat. *avus* "id"; Arm. *han* "grandmother," Hitt. *ḫannaš* "id," Lat. *anus* "old woman"; Arm. *haw* "bird," Hitt. *ḫwant-* "wind," Lat. *avis* "bird"; Arm. *hovem* "blow," Hitt. *ḫwant*⁻¹, Gk. *ἄνεμ* "blow"; Arm. *hay*(*k'*)² "Armenian(s),"

¹This etymology cannot be, for the intervocalic **-w-* would have produced Arm. *-g-*. It is perhaps a loan.

Hitt. *Ḫatti*; Arm. *heṭeṭ* "torrent"³, Hitt. *ḫaršiḫarši-* "thunderstorm"; Arm. *hanem* "draw," Hitt. *ḫan-* "draw, dip"; Arm. *hatanem* "cut," Hitt. *ḫat-* "pierce, stab, stick"; Arm. *hot* "odor," Lat. *odor* "id," IE **Oed-*; Arm. *hoviw* "shepherd," Lat. *ovis* "sheep," IE **Oewi-*⁴; Arm. *hum* "raw," Gk. *ὥμος* "id," IE **HeOm-*. Of these eleven etymologies, the majority still remain valid today, showing a curious correspondence between Hitt. *ḫ* and Arm. *h* as well as the Indo-European laryngeal. Austin's observation received eventual strong support, first from Polomé (1950, 1953); Jerejian (1953) dealt with the sequence *h/Ø*, and Minshall (1955) followed with his work on the sequence **Hy-* in Armenian. Ivanov (1957:72) discussed the Armeno-Hittite laryngeal parallels in conjunction with a larger study of the laryngeals, and later (1962) made a note of the parallel Arm. *hoviw* "shepherd," Hier. and Cun. Luw. *ḫawi-* "sheep." Werner Winter, in *Evidence for Laryngeals* (1965:100-2), also used the observation of Austin.⁵ The idea was more systematically developed in Yerevan by Djahukian (1967:239-43) who added many new correspondences. An examination of the material shows that all three laryngeals, **E* (Arm. *heṭ* "strife"⁶), **A* (Arm. *haw* "old man"), and **O* (Arm. *hot*, IE **Oed-*), can be reflected in Armenian as *h*. However, some of the etymologies seem to include words that are not Indo-European, particularly the parallels Arm. *hatanem* "cut," Hitt. *ḫat-* and Arm. *hanem* "pour," Hitt. *ḫan-*.

²It is curious to imagine how the Armenians could have derived their name from a non-Indo-European people since the Armenian language is of course basically Indo-European. Djahukian (1964) sought an origin for the term in the tribe name *Ḫayaša* (*KBo* IV 4 = *BoTU* 58 B) in which he tried to show, unsuccessfully it appears, that the language of the *Ḫayašaš* was Indo-European. An English version of this small monograph appeared earlier, in 1961.

³This word is better taken from IE **pel-nu-mi*, Lith. *pilù*, *pilti* "to pour, flow in a torrent." However, an *o*-grade form, Arm. *oṭoṭ* "inundation," might be derived from Hitt. *alalam(m)a-* "roar (of a river)" (Puhvel 1977:598).

⁴See footnote 1.

⁵The most recent studies are by Greppin (1973 and 1975a).

⁶Attic reduplication is shown in *ἐρήρυσμα*, from *ἐρίζω* "quarrel."

This clearly raises the spector that some of the etymologies advanced by Austin do not represent an Indo-European continuum, but rather are loan words from Hittite into Armenian, a theory that has been considerably developed since the time of Austin⁷. These new loan words which have been suggested also show parallels between Hitt. \dot{h} and Arm. x . But, unlike those words with Arm. h , the words with Arm. x appear to be only of non-Indo-European origin⁸. It seems clear that at least the words which show a correspondence of Hitt. \dot{h} and Arm. x must be loans; it is also likely that some of the correspondences of Hitt. \dot{h} and Arm. h must also be loans. However, there seems to be no clear way of making a distinction in each instance. In spite of (or perhaps because of) the advancements that have been made since the article of Austin, the question of the relation of Armenian and Hittite h/\dot{h} is only indistinctly answered.

Secondly, Austin's opinions about the origin of the Armenian ablative in $-oy$ ⁹ (= Lyc. $-adi$) and $-\bar{e}$ (= Lyc. $-edi$), not wholly embraced by Kerns and Schwartz, still remains open to discussion. Kerns and Schwartz, though not dismissing Austin's views, suggested caution since Arm. $-\bar{e}$ might have been analogically derived from the o -stems, and perhaps was a late development comparable to the Avestan and Latin ablative singulars. They also noted that the Armenian instrumental in $-v$ and $-w$ could be derived from IE $*-bhi$ and thus shows no relation to the Hittite instrumental. This latter point diminishes the significance of the proposed parallel with the ablative. The conservative view on the origin of the Armenian ablative is stated in Meillet (1936:73), who cautiously suggests a rapport with the Indo-European adverbial element $*(e/o)tos$,

⁷See, for bibliography, Greppin 1975b. A later statement suggests that the loans come into Armenian not from Hittite, but from Hieroglyphic Luwian (Greppin 1978).

⁸Such as Hitt. $i\dot{s}ha\dot{s}$ "lord," Arm. $isxan$ "prince"; Hitt. $ha\dot{h}aliya$ "fight, struggle," Arm. $wo\dot{x}wo\dot{x}em$ "slaughter"; for additional, cf. Greppin 1980.

⁹The Armenian genitive in $-oy$ can be derived from IE $*-osyo$.

a form which appears in Skt. *mukhatāḥ* "from the mouth," Lat. *funditus* "from the bottom." These forms could indeed correspond to Lyc. *-edi*, *-adi*, but would not imply a special relationship between Armenian and Hittite¹⁰. Further, Pisani (1966a:359 and 1966b:230-1) has suggested that this Anatolian **-ti* was not Indo-European, a suggestion also made by Rosenkranz (1952:59), who saw an origin in Hurrian *-ta*. Godel, who wrote the most recent comment (1975:105-6) shares the hesitancy of Kerns and Schwartz about a direct Anatolian correlation, pointing out that while the **o* of **-oti* would be derived from the normal stem vowel, the **e* of **-eti* could not have been part of the noun stem¹¹. Ultimately, the suggestion of Austin is not really of value, and not as interesting as the suggestion of Meillet. The hesitancy of Kerns and Schwartz appears still to be proper.

The final point of this article will be a review of the material on the placing of Armenian within the Indo-European language family. The position stated by Meillet (1936:9) that Armenian is "un rameau... indépendant de tous les autres" is no longer universally held. Further, the view that Armenian is a *satem* language has also come under attack. Most scholars would still agree with Kerns and Schwartz that Armenian is not an Anatolian language. Indeed, even Sturtevant (1951:8, fn. 24) abandoned Austin's suggestion. However, many also are not confident that Armenian is closely related to the Indo-Aryan languages in spite of clear *satem* characteristics in the phonological system of Armenian. There have long been weak attempts to imply a special relation between Armenian and Phrygian. Of particular note is the effort made by Dressler (1964). But attempts to deal rationally with Phrygian are severely limited by what must be recognized as our very poor knowledge of that

¹⁰The form is now known in both Cuneiform and Hieroglyphic Luwian as well as Hittite where they also function with instrumental value (Laroche 1955:163-70).

¹¹Godel goes on to suggest an adverbial origin of the Armenian ablative in *-ē*, citing Bugge's hoary idea (1893) of rapport with Gk. ἔτι "also, still," OCS. *otb* "from."

language, a limitation which makes any of our conclusions ambiguous. Haas' work (1960), the most thorough overview that has appeared, has received over the years very strong criticism. Repairs are in sight, since a new comparative grammar of Phrygian is being prepared in Lenin-grad (Diakonoff and Neroznak 1977) and has begun to appear in sections. Earlier, Diakonoff (1976) expressed his strong views that Armenian and Phrygian share a very close relationship¹². Neroznak (1976:176-7 and 302) further states that Phrygian occupies an intermediate position between Greek and Armenian. But these suppositions by Diakonoff and Neroznak are still premature since only the article on Phrygian morphology has appeared in support of their position. Yet to be produced is a study of the Phrygian lexicon and a critical edition of all texts that are known. Only after this can we hope for substantial statements about the relationship of Armenian and Phrygian.

In addition to the Phrygian connection, work has been afoot for many decades which hints at the close relationship of Armenian and Greek, a relationship which by no means excludes Phrygian. Pedersen stated this first in his article (1924) on the Armenian language in the *Reallexikon der Vorgeschichte*. The idea was more fully developed by Bonfante (1937), who reviewed twenty-four Greco-Armenian isoglosses, only a few of which had reference to morphology. And his phonological arguments, too, were ultimately insufficient. Thus Bonfante's conclusion, that Armenian and Greek "forment parmi les langues indo-européennes un group extrêmement serré" (1937:33), was not wholly convincing. He also could not break from the view that Armenian was a *satem* language, and felt compelled to state that "le grec est donc une langue de l'Orient" (1937:31).

¹²The well-known statement from Eudoxus: τῆ φωνῇ πολλὰ φρυγίζουσι is frequently translated in such a way as to imply that their speech was quite similar. Diakonoff (personal communication) has suggested that the passage might rather read "and in their speech the 'Phrygize strongly" or "and in their speech they have a strong Phrygian accent."

Some support for the Greek view comes from Solta's (1960) study of the Indo-European elements in the Armenian lexicon. Solta showed that there are considerably more unique isoglosses between Armenian and Greek than between Armenian and any other language. This is significant information. The only decisive argument that can be leveled against Solta's study is that his listing of Armenian etymologies was perhaps too conservative, and thus not truly representative. If he had cast his nets farther perhaps different conclusions could be reached. A more thorough study of the position of Armenian within the Indo-European community remains to be done.

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ALBANIAN *edhe* "AND"

ERIC P. HAMP
University of Chicago

It is hard to say in advance where the word for "and" will come from. We know that the notions which we cover with our word *and* are not simple. There is more than one way of conjoining, and this knotty fact has been studied by logicians as well as by linguists; the literature is ample. Then too, a language may choose more than one phonetic way of representing these conjoinings; some of these ways may sound the same as some other things that are not just plain conjoinings. I have discussed some of these various ways of saying "and" in Old Irish on a number of occasions.¹

Yet, after we have recognized this multiplicity of problems and potential solutions, there arises for the etymologist or historical linguist an additional complexity. It is not immediately clear through what way-stations of lexical elements a given word for one of these and's will have passed on its journey through time to the observed form. To make the problem manageable, let us examine briefly the favorite forms of Indo-European Europe.

Indo-European had an enclitic particle **-kʷe* which we cannot analyze further. It is attested to us securely in Skt. *-ca*, Avestan *-ča*, Greek *τε*, Mycenaean *-qe*, Latin *-que*, Lepontic *-pe*, German *no-oh*, *do-oh*,

¹*You Take the High Node and I'll Take the Low Node*, Chicago Linguistic Society Parasession, 1973, pp. 238-47; *Varia: ocuis^L, Eriu* (in press).

and some Old Irish remnants with *-oh*. This has lasted almost nowhere into modern time.

There are a few other instances where we seem to detect a fairly abstract expression. Welsh has *a(o)*; the origin of the *a-* is obscure, but the *-e* seems to be an old **-k* related to the beginning of **-k^we*. Gothic had *jah*; the *-h* is perhaps the same element that we see in the Welsh, but the initial *ja-* must be a pronominal. Syntactically, it is not likely to be an old relative, so therefore we suppose it to be a thematized anaphora. The Gothic structure thus seems to be a bleached version of Lat. *quoque*. Slavic *i* is difficult and ambiguous, and has been derived, implausibly to my mind and especially on the evidence of these other forms being reviewed, from an old locative **ei* -- besides, I do not think that is the correct formation for such a locative, but I shall not dwell on that here. More harmonious with the others would be the anaphora stem **ji-* < **i-* with an old final element lost phonetically by normal Slavic rules. As I have set forth elsewhere, I take Slavic *a* to be **ā* < **o-H_αet*, lit. "from that, thence, vel sim.". That is, we have an anaphora stem plus a postposed directional. ON *ok* < *auk* has been compared plausibly with Greek *αὐγῆ*, i.e., *αὐ-γῆ*, and then to Lat. *aut*, *autem*, and Skt. *u*, *uta*. If so, we have an old conjoining particle of unclear early value plus an enclitic of emphasis.

Latin *et* survives in most of the daughter languages, including Spanish *y*. This is derived from **eti* "still". It is a bit like those modern letters we get from advertising firms that say at the bottom of the page "more". The highly specialized OIr. *os/ot* derives from an old participle of "to be" in a special syntax, as I have recently elaborated.²

Then there are some species of "and" that are bound up with a comitative function. In Old Irish there is a continuative particle of very limited function as well as a subordinating conjunction which

²Varia II. 1. Conjoining *os*, *Ériu* 29, 1978, pp. 149-52.

I have discussed³ in relation to the preposition *com* "with", the latter of course showing a well-known cognate in Latin. In the same article, I have related the double use of Welsh *a(c)*, mentioned above, in the sense also of "with". From the same etymon as *com*, we find also the most versatile Greek form for "and" *καί*. The background of Lith. *į* is not precisely clear to me; it seems to continue an old Indo-European particle, as the reference books claim, but I am not sure what the earlier precise force of this particle was. In any event, its apparent Latvian cognate *ar* is interesting to us in its use in the functions both of "and" and of "with". There is a further interest in this particle if it really is at bottom the same element as the Indo-European "medio-passive" *-r*, as Calvert Watkins has claimed in his volume on the verb of the *Indogermanische Grammatik*.

We then find some expressions that are locationals in origin. I have explained OIr. *acuis*^L (to cite it in its most archaic shape) as being in origin "at hand" > "near(by)" (in press); it was, therefore, a concatenator that announced the adjacency of the next element. Armenian *ew* has long been seen to be **epi* "on, thereon" > "thereupon". This now suggests a fresh approach to the Germanic set represented by OE *and*, *ond*, OFris. *and(a/e)*, Netherlandish *en(de)*, OHG *anti*, *enti*, *inti*, *unti*. First of all, it is clear that, allowing for umlaut phenomena, there are at least two original forms here, differing in ablaut. It is quite possible that one is an old cognate of Vedic *átha*. But wide-ranging ablaut would not be motivated at an early date in such a particle. I therefore suggest that another source is to be found in the locative particle **H₂en-dhi* related to our word *on*, which I have discussed elsewhere.⁴ The semantics here would then be exactly the same as in the Armenian case.

³*You Take...Low Node*, pp. 242-7; on Greek *καί*, see *Études celtiques* 14, 1975, pp. 470-1. For remarks on "and" and "with", see Lakoff and Peters, in Reibel and Schane, *Modern Studies in English*, 1969, pp. 113f.

⁴*Ériu* 28, 1977, p. 145, §2.

Now let us turn, in light of the above framework, to Albanian. Three forms occurring in most Albanian dialects are found in what is ultimately either free or prosodic variation: *e*, *dhe*, and *edhe*. I regard the last as a reinforced compounding of the first two. It is normally accented *edhé*, which is a stress contour that points to a recent combination. But, more fundamental, if the *dh* had originally been medial, it should have vanished intervocalically by now. While one cannot assert it conclusively, it seems likely and plausible that *e* simply derives from a borrowing of Lat. *et*.⁵ If one seeks a parallel, it has been claimed that Alb. *a* reflects a loan, Lat. *aut*.

But what is *dhe*? We have just reviewed types that reflect a semantics of "that", "thence", "still", "being", "with", "nearby", and "(there)on". If, however, we canvass possible Indo-European reconstructions for Albanian that would lead directly and frontally to these senses, we do not have any success in locating an obvious candidate that imposes itself as a unique solution. Let us then try a different stratagem, one that actually offers stronger controls. We will inspect Romanian, because I am convinced that Romanian is the descendant of a Latinization of an autochthonous population which earlier spoke an Albanoid Indo-European language -- whereas Albanian represents the continuation of kindred dialects which, though accepting many loans and cultural influences, escaped Latinization. We may then expect, as in other instances, that Romanian may preserve in Latin dress the syntax and semantics of an earlier Albanoid form.

⁵A direct, if ambiguous, Indo-European explanation for *e* can be hazarded with all due reserve: Since an explanation for *dhe* is about to be offered as **ǵ(h)ō*, by the same token, *e* could be **(i)ō*, with the same undecidable case inflection; the base would be pronominal (oblique) **e-* or else a reshaped **i(o)-*. Alternatively, if the original syntax here was locative, as with Arm. *ew* or perhaps Eng. *and*, the preform could have been a reshaped locative **iōi* formed exactly as *te* "at", perhaps **toi*, may have been. This at least has the virtue of according *e* and *dhe* a comparable source -- a kind of solution always to be preferred in the abstract.

It is noteworthy that Romanian diverges from the other Romance continuations of *et*. Instead, we find *și* < Lat. *sic*. That is to say, "and" has taken the form of "thus, so". We may suppose then that in their earlier native language, the Latinized Romanians used for "and" a form which was easily equated with the expression with which they routinely conveyed the sense "thus, so, in this fashion".

Now, if we mechanically reconstruct Alb. *dhe*, we reach $*\acute{g}(h)\bar{o}$. There could have been a final consonant, e.g., $*-d$, but we cannot know at least at present. A form $*\acute{g}ho-$ would have been a thematization of the demonstrative stem seen in Lat. *hic*, *hoc(e)* < $*hod-ee$ < $*\acute{g}ho-d + \acute{k}e$. The inflected termination $*-\bar{o}$ could have been an instrumental, or an ablative, or a dative -- we simply do not know the case structure for that period. The meaning would have been "with/by/from this" = "thus".

ADDENDUM

Since writing this article I have reached a more satisfying analysis of Slavic *i* and Baltic *ĩ* than that summarized above, an analysis (set forth in detail elsewhere) which unifies these two as reflexes of $*i$, the locative singular of the Indo-European anaphora $*ei/i-$. Such a solution then favors the locative analysis of Alb. *e* offered in footnote 5, and once again we find an element linking Albanian originally with Balto-Slavic. The argument for *dhe* however remains unchanged.

"DECEM" AND "TAIHUN" LANGUAGES: AN INDO-EUROPEAN ISOGLOSS

PAUL J. HOPPER

State University of New York at Binghamton

There has been discussion in recent literature of the material and theoretical implications of a new reconstruction of the Proto-Indo-European obstruent system developed independently by Gamkrelidze and Ivanov (1972; 1973) and myself (Hopper 1973; 1977a; 1977b). This theory has predecessors in Pedersen (1951) and Martinet (1953). According to the new reconstruction, the system of occlusives in Proto-Indo-European was a triple one consisting of voiceless, voiced, and glottalized stops at each point of articulation. In the following table, as throughout, I identify the traditional stops with the Latin names often used for them; in so doing I hope to avoid any confusion over whether the traditional or the new phonetic descriptors are being applied.

	TENUES	MEDIAE ASPIRATAE	MEDIAE
labial	p	bh	(p')
dental	t	dh	t'
velar	k	gh	k'
labiovelar	k ^w	g ^w h	k' ^w

For discussion of the allophones of this system the reader is referred to the literature presented above and to Miller 1977 and Normier 1977;

it is not my objective to argue for any of the slightly differing points of view among the adherents of the "glottalic theory", nor shall I discuss problems arising out of points of articulation of the various stops. Instead I shall summarize the kinds of evidence adduced in support of the theory, and make some brief remarks about its implications for the areal typology of Indo-European.

The primary reason for wishing to replace the Proto-Indo-European mediae with glottalized stops is that this immediately clarifies certain long-noticed anomalies about the distribution of the mediae. These are the only stops which may not cooccur with one another in the same root; that such a constraint is typical of glottalized occlusives was pointed out in Hopper 1973 and Gamkrelidze and Ivanov 1972, 1973. Furthermore, if the constraint is formulated as a prohibition against having two glottalized phonemes in the same root, a second constraint is also explained, that which excludes a tenuis (voiceless stop) from occurring in the same root as a media aspirata (voiced aspirate). As was elaborated in my paper of 1973, this second constraint follows from the first as a case of *voicing assimilation between nonglottalized occlusives*.

A second anomaly is the rarity or absence of a labial media in the reconstructed Proto-Indo-European stop system.¹ It is clear from

¹The question of whether the presence of one or two confirmed roots containing the labial media **b* would invalidate this argument has sometimes been raised. It must be stressed that the absolute presence or absence of supposed **b* is a relatively trivial question beside the more significant one of its marginality, i.e. proven high markedness as shown by its statistical distribution. Insofar as this distribution is being used as evidence for glottalic articulation of the mediae, nothing is changed by the establishment of one or two roots containing **b*. In fact, however, the evidence for **b* is not good: of the supposed ? **bel-* cognates, Gk. βελύων probably does not belong here, and Lat. *dēbilis* is surely related to the verb *dēbēre*. The root meaning "deep", supposedly (in traditional terms) **dheub-*, has a doublet **dheup-* (which also looks strange), is not attested in any of the "southern" dialects (Italic, Greek, Indo-Iranian, Armenian), and has only dubious cognates in Celtic and Slavic.

the study of the nature of obstruent systems that a correlation exists between glottal type and place of articulation (Gamkrelidze and Ivanov 1973; Gamkrelidze 1975; Sherman 1975); in particular, Gamkrelidze has shown with great elegance that in the labial position voiced phonemes are more strongly favored than unvoiced ones, and that glottalic phonemes are less favored than nonglottalic ones. Consequently, when a lacuna exists in this position it will always reflect that phoneme which is *furthest to the left* in the series:

$$/p'/ \sim /p^h/ \sim /p/ \sim /b/$$

It is thus a necessary conclusion that the phoneme shown by its statistical distribution to be the most highly marked in the labial series was glottalized.

A third indication that the Proto-Indo-European mediae were not plain voiced stops is their rarity in inflectional affixes and pronouns. Such a distribution is characteristic of highly marked phonemes such as glottalized sounds, but anomalous for ordinary voiced stops in contrast with voiced aspirates. Here again general linguistic considerations suggest that the mediae were not simply lax stops, but that they had an extra phonetic component which set them apart from the basic contrast between voiced and voiceless stops.

The phonetic features of the Proto-Indo-European occlusive series present a peculiar challenge to the comparativist. The reconstruction of the first phoneme in a cognate set like: Gk. φέρω, Lat. *ferō*, OCS. *berq*, etc., is confirmed as **b^h* solely on the basis of the Indic reflexes (Skt. *bhāraṁi*); no other language except perhaps Armenian gives direct evidence of the ancestral phoneme. Yet in a significant number of dialects this phoneme remains distinct from reflexes of tenues (voiceless stops) and mediae: Gk. β/π/φ, Lat. *b/p/f*, Goth. *p/f/b*, etc. Sanskrit thus does not provide the only evidence for a separate *series*, but only for the phonetic features of that series. Comparative evidence, in other words, "directly" leads us to posit a three-fold obstru-

ent system for the whole of Indo-European: *Tenuēs*, *Mediae*, and *Mediae Aspiratae*. But the phonetic features of these obstruents cannot be reconstructed by simplistic juxtaposition and "tabular" comparison; there are too many possibilities. Even if we exclude the distinct series of *tenuēs aspiratae* (voiceless aspirates), we find that at one time or another at least the following phonetic possibilities have been defended:

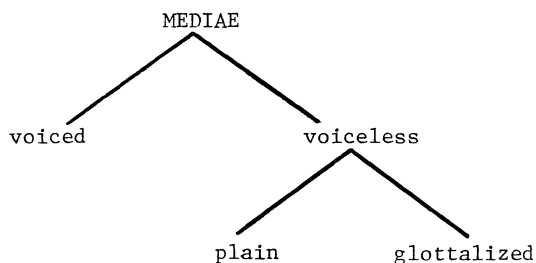
	TENUES	MEDIAE	MEDIAE ASPIRATAE
1.	p	b	bh
2.	p ^h	p	b
3.	p	b	f
4.	p	p'	b
5.	p ^h	p'	b ^h

all of which, it can be argued, are compatible with the comparative data (for 1: Lehmann 1955; for 2: Emonds 1972; for 3: Prokosch 1938 [e.g.], Schmoll 1958; for 4: Hopper 1973; for 5: Gamkrelidze and Ivanov 1973). The selection of possibilities like the above and others must rest on the study of processes internal to the languages of the family and on our increasingly sophisticated knowledge of phonology in general.

Especially at issue is the phonetic nature of the Proto-Indo-European *mediae*, for which the following chief reflexes are found:

1. Voiced stops, in a wide but essentially contiguous area of Indo-European, viz. Indo-Iranian, Slavic, Baltic, Celtic, Italic, and Greek.
2. Unvoiced stops in some isolated and widely separated dialects, viz. Armenian, Germanic, Tocharian, and probably Anatolian. In Eastern Armenian these stops are unaspirated and lightly glottalized. In Anatolian the evidence for a contrast with the Proto-Indo-European *tenuēs* is contradictory, but whatever the evidence here there is no evidence for actual voicing.

The comparative evidence for phonetic features of the mediae thus allows the following range of possibilities:



In regard to the major division between voiced and unvoiced reflexes we see that either the major group, 1, has innovated by voicing a voiceless series, or the minor group, 2, has innovated by shifting voiced stops to unvoiced ones. It is the latter viewpoint which has been standard since the outset of comparative Indo-European studies. It is supported by sheer weight of numbers (at least seven groups as opposed to at best four groups), the stature of its inventors and elaborators, and the "classical" prestige of Greek, Latin, and Sanskrit; this last point having, of course, no linguistic value but perhaps some importance for the history of the question. Furthermore the Germanic "sound shift" was the first major discovery of comparative grammar, and, as is becoming clear, will not be ceded without a struggle.

From our present vantage point the distribution of unvoiced vs. voiced stops somewhat resembles the distribution of palatal fricatives or affricates vs. velar stops cognate with them: Here, a central contiguous group shows palatal reflexes (fricatives or affricates) (Indo-Iranian, Armenian, Slavic, Baltic, and Albanian [in part]), while a peripheral group (Germanic, Celtic, Greek, Italic, Anatolian, Tocharian) has velar stops. This peripheral group consists not of an adjacent band of dialects or "linguistic area", but of languages in part isolated from each other. Independent innovation is highly unlikely under these circumstances, and general linguistic considerations would

alone point to the Satem group as showing secondary development. In a comparable way we may distinguish now between a *Taiwan* group of dialectal isolates (from the Gothic word for "ten") in which mediae appear as voiceless stops, and a *Decem* group in which mediae became voiced. As an alternative to the (dialectologically improbable) thesis that these isolates have independently undergone devoicing, we may substitute the thesis of a spread of change from unvoiced stops to voiced stops in a wide band ranging from Indic to Italic and Celtic ("decemization"). This change would have had its initial impetus in the laryngealization or preglottalized articulation of the glottalic stops (cf. Hopper 1973:153), which spread at an early stage throughout the Indo-European area, leaving isolated and discontinuous relics.

This view is incompatible not only with the traditional reconstruction of the Proto-Indo-European obstruents, but also with a variation on the traditional view in which decemization is a "pre-Indo-European" process discernable through internal reconstruction of Proto-Indo-European itself but not directly reconstructable for a stage at which the dialects were on the point of diverging. It is true that such a solution would resolve the problem of the plausibility of the reconstructed system; for example, we might have the following stages:

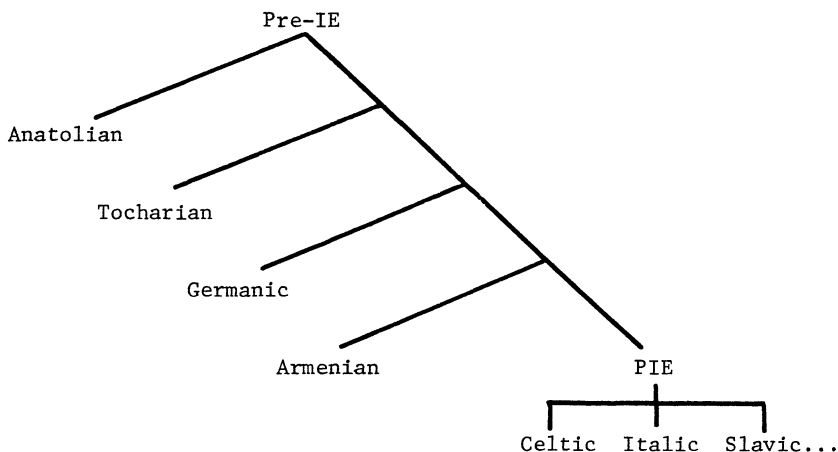
Pre-IE:	t	t'	d
PIE:	t, th	d	dh

where the tenues have split into plain and aspirated stops and decemization of the glottalics has occurred, but between which no stage need be held to have existed in which the typologically implausible system below was present:

/t/ ~ /d/ ~ /dh/

In order to derive Germanic, Armenian, Tocharian, and Anatolian from this scheme, however, it would be necessary to build in intermediate

stages à 1a Indo-Hittite:



(with the necessary conclusion that Germanic, etc. were not Indo-European languages), or else assume a series of unrelated and disconnected sound shifts. In fact there is structural support from within the decem languages for earlier stages of voicelessness in the reflexes of the Proto-Indo-European mediae. Thus Miller (1977) has studied the interrelationship between Bartholomae's Law, Grassmann's Law, and the Proto-Indo-European root structure constraints referred to above, and concludes that Bartholomae's Law (the assimilation of voiced aspirates across a boundary, i.e. $bh + t > bdh$) is intelligible only if the voiced aspirates were at one time the only voiced stops (cf. especially Miller's statement 1977:36).

It must be noted at this point that the Glottalic Theory is historically at the same stage as the Laryngeal Theory was shortly after the publication of de Saussure's *Mémoire sur le système primitif des voyelles dans les langues indo-européennes*: developed and argued principally on structural and theoretical grounds, it must now move into a stage where more concrete applications of it are sought. An important area of search must be the finding of evidence for the decem effect, i.e. traces of historical voicelessness or glottalization in decem

reflexes of the Proto-Indo-European mediae.²

AFTERWORD

*If you can't say anything original,
attack someone important.*

--Ancient American Academic Saying

Probably the most enduring achievement of recent work in the use of typological criteria for validating reconstruction will be seen to be the development and formulation of concrete hypotheses about proto-languages -- hypotheses which can be scientifically examined and tested, subsequently, of course, to be either accepted or rejected by the community of scholars. In this "Afterword" I cannot refrain from responding to the paper "Typology vs. Reconstruction" by G. Dunkel (this volume), in which, when the intemperate language is stripped away, the suggestion is apparently made that the data of reconstruction should be applied to control typology instead of the other way around. Consider now, for example, the case of a linguist wishing to find out if a system of consonants has ever been noted in which obstruents were represented only by fricatives. On referring to the "typological data bank" (!) this linguist is informed that such a system has indeed been recovered, albeit not in a living, nor even in a recorded language, but in the reconstruction of Proto-Bango. Anyone familiar with the working ways of linguists would guess immediately at the reaction: to question the reconstruction of Proto-Bango which led to such a conclusion.

G. Dunkel's paper is unfortunate in the extreme. It is shallow and outspoken in its criticisms (for example, the facile reference to Meillet's supposed "three language rule" ignores the important caveat stated elsewhere in the *Introduction*... that "The area occupied by each word is one of the essential data of etymology, and one must always, in studying a word, ask what place it occupies on the map" [Meillet 1937: 380]; the interpretation of Sturtevant's Law accepts too complacently that the orthographic distribution concerned is evidence of *voicing* rather than laxness or glottalization; etc.; a great deal of the literature -- e.g. the work of Gamkrelidze and Ivanov -- has been overlooked). G. Dunkel's comments on present and past scholars are surprisingly loose-lipped for one who has as yet achieved so little:

²Such as the lengthening of accented vowels in Baltic and Slavic before reflexes of mediae (but not of mediae aspiratae) described by Winter (1976), see especially Kortlandt's note to Winter's article.

Roman Jakobson's work is "notorious" (§1), Kuipers is described as "disgusted" (§2), Benveniste and Kuryłowicz are "brutally reductionist" (§3), Lehmann's "extremism" (!) and "lack of philological concern with the data" lead him to "blunders" (fn. 6),³ Benveniste (again) is guilty of "arbitrariness", his Root Theory is "procrustean", and he shows a "disregard for semantic considerations" (fn. 7), while Ramat "avoids the issue" altogether (§10). Furthermore, the work of these and others is "corrupt" (§10) and "must be rejected without further ado" (§9). Surely Calvert Watkins must read with mixed feelings that G. Dunkel has pronounced his work "masterly" (§4).

³The reader of G. Dunkel's article might easily infer that Hoenigswald's review (1954) of Lehmann is cast in the same shrill tones. Such an inference would be totally incorrect: The "blunders" referred to by Dunkel are almost exclusively misprints or oversights of the kind which usually occur in detailed monographs and which it is the reviewer's task to point out. The final paragraph of Hoenigswald's review calls the book "courageous", "one of the most serious efforts that have been made", "stimulating", and containing "several handsome contributions to special problems". At no time are the words "blunder", "extremism", or "lack of philological concern with the data" either used *or implied* by Hoenigswald in reference to Lehmann's book, and to suggest that they are is a gross offense to the two scholars. Misrepresentations of this kind must cast serious doubt on the credibility of G. Dunkel's other views.

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JUDEO-ITALIAN LEXICAL ITEMS COLLECTED BY ZALMAN YOVELY*

GEORGE JOCHNOWITZ
College of Staten Island, C.U.N.Y.

The various dialects of Judeo-Italian, once the language in the ghettos and Jewish quarters of Italy, were disappearing a hundred years ago and are often considered to be dead today. Judeo-Italian was probably never unified, nor was it ever sharply different from the surrounding Italian dialects. Therefore, it could disappear very gradually, with speakers discarding Judeo-Italian elements one at a time in favor of the local dialect or the standard language.

The grammatical peculiarities of Judeo-Italian are no longer heard. Occasional lexical items, idioms, and proverbs remain in use, however. During the past ten years, these items have appeared in various publications, among them Colorni (1970), Scazzocchio Sestieri (1970), Fortis and Polacco (1972), Modena Mayer and Merzagora Massariello (1973), Massariello Merzagora (1977), and Fortis and Zolli (1979).

Other hitherto unpublished collections of these items have been made as well. One of them was made by Dr. S. Zalman Yovely, an Ashkenazic Jew who was born in the Ukraine, near Lutsk, in 1901. He lived for a while in mandate Palestine, but resided in Italy from 1925 to 1940. He received his Doctor of Law degree from the University of Florence in 1928. In 1940, he returned to Palestine and later entered the

*I am grateful to David Bunis, Roberto Levi, and Richard Steiner for their assistance.

British Army. After his discharge, he was Chief of Archives of the Police Department under the British Mandate and later under the State of Israel. He came to the United States in 1952 and resided in New York until his death in 1979, although he visited Italy frequently after 1954. Dr. Yovely heard various Judeo-Italian expressions in different parts of Italy, and wrote them down on cards after moving to the United States. He gave me the cards, which simply list the words and phrases he collected, and defined most of them for me in a conversation which I taped. Some of the items he collected are well known; others, including some off-color words, were new to me. I include all of them here, even those quite familiar to students of Judeo-Italian, because it is of interest to know that they were still used in the 1930's.

The non-Italian words below will be transcribed phonetically in the International Phonetic Alphabet except for the following: [j] and [ɲ] will be written [š] and [ñ] respectively, and stress will be indicated with an acute accent ['] over the stressed vowel. A broad phonetic transcription will be used, which probably represents the phonemic system of Dr. Yovely's Judeo-Italian according to the structuralist understanding of phonemics. When a word of Hebrew or Aramaic origin in Judeo-Italian (merged Hebrew) is pronounced as it would be according to the Italian Jewish tradition of reading Hebrew (whole Hebrew), I shall not repeat the phonetic transcription when giving the etymology. Dr. Yovely's pronunciation of merged Hebrew was basically that of the Jews of northeastern Italy (he pronounced *y* as [ñ]), although he distinguished [š] from [s], which is typical of central Italy. Dr. Yovely's whole Hebrew was that of Israel. For a discussion of the pronunciation of Hebrew by Italian Jews, see Artom (1962). In the expressions below, Italian words, spelled in standard orthography, will be *italicized*.

[axláre] "to eat". From Hebrew אכל "eat" with the Italian first conjugation infinitive suffix *-are*.

[bakjáre] "to weep". From Hebrew בכה [baxá] "weep", with the Italian *-are*. Other pronunciations of this verb have been reported, e.g., *bahayà* (Massariello Merzagora 1977:49).

[beraxá] "blessing". From Hebrew ברכה. It occurs in the expression *fare una* [beraxá] "to make a blessing".

[bexorá] "fool". From Hebrew בכורה "birthright". Perhaps the allusion is to Esau, who was a fool to lose his birthright.

[bizujózo] "embarrassed". From Hebrew בזיון "contempt" with the Italian adjective suffix *-oso*.

[dabrár davár] "to say nothing". From Hebrew דבר [dabér] "to speak" with the Italian infinitive suffix, and דבר "thing". The semantic change from "thing" to "nothing" is also found in Shuadit (Judeo-Provençal), and is parallel to the development from Latin *rem* to French *rien*.

[duíř] "Jesus Christ". From Hebrew אִתּוֹ הָאִישׁ "that man". It occurs in the obscure expression [duíř] *impasta'in* [piř], which I do not understand.

[dzoná] "prostitute". From Hebrew זונה.

[ganáv] "thief". From Hebrew גנב.

[ganavjáre] "to steal". From [ganáv] with the Italian infinitive suffix.

[gibén] "hunchback; jack in cards". From Hebrew גבן "hunchback"

[goy] "gentile". From Hebrew גוי "nation".

[hamafliá la-asót] literally "to do wondrously". The words המפליא end the blessing that is made after leaving the toilet and washing one's hands. They occur in the proverb *Chi vuol fare [hamafliá la-asót] vada al gabinetto*, which I would venture to translate as "You can't make an omelet without breaking eggs". The literal meaning, of course, is "Let him who wishes to say [hamafliá la-asót] go to the bathroom". The word [mošáv] (q.v.) may occur in place of *gabinetto*. In this expression, Dr. Yovely used his whole Hebrew rather than his merged Hebrew pronunciation.

[judío] "Jew". From Hebrew יהודי [jeudí].

[kalavássa] "fool". No doubt from a similar word in Judezmo, which in turn is from Spanish *calabaza* "gourd, pumpkin". David Bunis informs me that in Palestinian Yiddish the expression *a kop fun a kalevase*, literally "pumpkin head", is used with the meaning "fool".

[kapará] "animal sacrificed for atonement". From Hebrew כפרה. It occurs in the expression *Sembra una [kapará] di [kipúr]* "he (she) looks like a sacrifice for Yom Kippur".

[kašér] "kosher". From Hebrew כשר. This word is humorously considered an acronym for *caro, sporcio, rancido*, "expensive", "dirty", "rancid".

[kavód] "honor". From Hebrew כבוד. It occurs in the expression *Meglio [kavód] che [xovód]* "Honor is better than debts". See [xovód].

[kazájid] "a little bit". From Hebrew כזית "like an olive". This alludes to the fact that grace after meals is said if the amount of bread eaten was larger than an olive.

[kets] "end". From Hebrew עק. It occurs in the expression [mikéts] è senza [kets] "[mikéts] has no end". [mikéts] מקץ is the name of the longest of the weekly portions of the Pentateuch read in the synagogue (Genesis 41:4-44:17).

[ki le-olám xasdó] "for His mercy endureth forever". Dr. Yovely here used his whole Hebrew pronunciation. The Hebrew phrase כִּי לְעוֹלָם חַסְדּוֹ occurs in the Hallel service, which is said on festivals. It forms part of the expression, heard in Pitigliano, *Vino bianco, vino rosso*, [ki le-olám xasdó] literally "White wine, red wine, for His mercy endureth forever". It is used to mean that either of two choices is good. The reference to both wine and the Hallel service suggests the Passover Seder, where wine is drunk and Hallel said.

[koaním di vajigáś] "phonies". The [koaním] כהנים, descended from Aaron, performed the priestly functions among the ancient Hebrews. [vajigáś] וַיִּגַּשׁ is a weekly portion (Genesis 44:18-47:26) in which Egyptian priests are mentioned, who are obviously not Jewish [koaním].

[lakxáre] "to take". From Hebrew לקח [lakáx] with the Italian infinitive suffix *-are*.

[lextíre] "to go". From the Hebrew infinitive construct form לָכַח [léxed, léxet-] "to go" with the Italian fourth conjugation infinitive suffix *-ire*. Perhaps the existence of the form [lextí] לָכַח "my going" influenced the selection of the *-ire* suffix instead of the more common first conjugation *-are*.

[makóm] "toilet". From Hebrew מקום "place". Used in Rome instead of [mošáv] (q.v.). Scazzocchio Sestieri spells it *macomme* (1970:126),

with the doubling of the final consonant and addition of *-e* that we would expect in Judeo-Roman.

[mamašúd] "reality". From Hebrew ממשות. It occurs in the expression *veniamo al* [mamašúd] "Let's get down to substance".

[manašá] "vulva". Dr. Yovely reported this term as coming from Mantua, but it is not found in Colorni (1970). Its etymology is obscure. It could conceivably come from Hebrew נשים [našim] "women" or נשה [našá] "to beguile, to dun, to forget", in either case with a prefix [ma-], suggesting the Hebrew causative form of the verb. This explanation, unfortunately, is not especially convincing.

[manzér] "bastard". From Hebrew ממזר [mamzér].

[mañód] "money". From Hebrew מעות "coins". It occurs in the expression *E' questione di* [mañód] "It's a question of money".

[maw]. See [sam a-maw].

[maxabáre] "to hide". From Hebrew מחבה [maxabé] "hiding place" with the Italian infinitive suffix.

[mešumád] "apostate". From Hebrew משמר. The same word is found in Yiddish and Judezmo.

[minjanísta] "a man who forms part of a [minján]". From Hebrew מנין [minján] "quorum of ten men required for certain prayers" with the Italian suffix *-ista*. A small congregation might pay a [minjanísta] to be assured of a daily quorum.

[mišpaxá] "family". From Hebrew משפחה. It occurs in the obscure expression [talaxí talaxá] *è tutta una* [mišpaxá]. I do not know

the meaning of [talaxí talaxá], nor do I understand the sense of the expression. Dr. Yovely, who compiled this list several years after he left Italy, did not remember what it meant or when it was used. David Bunis informs me that *tar(i)xí tarwá, una negra mišpawá* has been reported in Judezmo. Fortis and Zolli (1979:305, 396-7) list the Judeo-Venetian *Tahì tahà zé tuta na mispahà!* They explain *tahì tahà* as an asemantic formula derived from the name of a Hebrew accent (111).

[mošáv] "toilet". From Hebrew מושב "seat".

[naxášozo] "superstitions". From Hebrew נחש [naxáš] "enchantment" with the Italian adjective suffix *-oso*.

[ňajňáre] "to look at". From Hebrew עין [ňájín] "eye", with the Italian infinitive suffix. The second [ň] in this word is surprising. I believe [ňajnáre] and [ňajnár] are more common pronunciations in northeastern Italy.

[ňaréí] "gentile man". From Hebrew ערל "uncircumcised".

[ňareltá] "gentile woman". From [ňaréí] with the Aramaic feminine suffix תא- [-ta].

[ňáširóne] "rich man". From Hebrew עשיר "rich" with the Italian augmentative suffix *-one*.

[ňavón] "iniquity". From Hebrew עון.

[ňasujáre] "to fart". Possibly from Hebrew עש [ňasá] "to squeeze", with the Italian infinitive suffix. The presence of the [u] is puzzling.

[pakadózo, paxadózo] "timid". From Hebrew פחד [páxad] "fear", with the Italian adjective suffix *-oso*.

[pilégeš] "mistress, common-law wife". From Hebrew פלגש "concubine".

[rabinéssa] "rabbi's wife". From Italian *rabbino* "rabbi" with the Italian feminine suffix *-essa*.

[rašañ] "evil man". From Hebrew רשע.

[revaxjáre] "to yield profit". From Hebrew רווח [révax] "respite" with the Italian infinitive suffix *-are*.

[rubíssa] "rabbi's wife". Hebrew רבי has been vocalized [rabí], [rebí], and [ribí]. In Italy we sometimes hear [robí] or [rubí]. This last form, with an Italian feminine suffix, has given us [rubíssa], which occurs in certain cities instead of [rabinéssa].

[ruxá] "fart". From Aramaic רוחא "wind". It occurs in the expression *dare una* [ruxá] "to fart".

[sam a-máw] "poison". From Hebrew סם המות [sam a-máved] "drug of death", with the loss of the final syllable and the change of final [v] to [w], which has taken place in much of northern Italy.

[soné] "anti-Semite". From Hebrew שונא "enemy". The corresponding noun is [sonaúd] "anti-Semitism", with the Hebrew nominal suffix *-ut* [-ud].

[séxel] "common sense". From Hebrew שכל "insight". It occurs in the expression *E' senza* [séxel] "He (she) has no sense".

[šamdársi] "to convert to Christianity". From Hebrew שמד [šamád] "to
"to be exterminated, to convert", with the Italian infinitive suf-
fix *-are* and the reflexive pronoun *si*. This word has the same
Hebrew root as [mešumád] (q.v.).

[šamír] "homosexual". The Hebrew שמיר has three meanings: (1) "a leg-
endary worm that cut stone", (2) "a legendary hard stone", and (3)
"brambles". This last meaning occurs in the Biblical phrase שמיר
ושיט [šamír va-šájid] "brambles and thorns". What any of these
meanings has to do with "homosexual" is unclear.

[šaxarút] "inferior merchandise". From Hebrew שחרות "blackness", with
the final ת pronounced [t], as it is in Leghorn and Israel, rather
than [d], the traditional pronunciation in Italy. Dr. Yovely
heard this expression among Jews from Leghorn. It suggests the
very common Judeo-Italian word *negrigura*, which is used to charac-
terize anything inferior or negative, and which is related to *neg-
ro* "miserable". This latter word no doubt entered Judeo-Italian
from Judezmo, which in turn adopted it from Spanish, where it means
"black".

[šefóx]. Occurs in the expression *far* [šefóx] "to vomit". From Hebrew
שפוך "pour" (imperative).

[šomu šamájim al zot]. An expression said when hearing bad news. שומר
על זוט occurs in Jeremiah 2:12, where it means "Be astonished,
O ye heavens, at this". Dr. Yovely used his whole Hebrew pronun-
ciation here.

[šoté] "stupid". From Hebrew שוטה.

[taňaníd] "fast day". From Hebrew תענית.

[tafsán] "policeman". From Hebrew תפס [tafás] "to capture", with the Hebrew agentive suffix [-an].

[tafús] "prison". From Hebrew תפוש "captured".

[táxad] "arse". From Hebrew תחת "under". The same semantic change has taken place in Yiddish.

[torád mošé] "I swear". From Hebrew תורת משה "the Law of Moses". This expression is sometimes pronounced [torá di (or de) mošé] because of the similarity both in sound and meaning of the Hebrew construct suffix and the Italian preposition *di*.

[tsakxáre] "to laugh". From Hebrew צחק [tsaxák] with the Italian infinitive suffix.

[tsedaká] "charity". From Hebrew צדקה. It occurs in the expression *fare la* [tsedaká] "to give charity".

[tsoá] "filth, excrement". From Hebrew צואה.

[tsurá] "face". From Hebrew צורה "form". It occurs in the expression [tsurá di (or de) agadá] "ugly face", literally "a face from the Haggadah". The drawings in the Haggadah (the book used for the Seder service) were traditionally of ugly people.

[vajdabér] literally "and he spoke". From Hebrew וידיבר. It is used in the expression *è un altro* [vajdabér] "That's another story". [vajdabér] is a frequent word in the Bible.

[vatodiénu] literally "you made us know". וְהוֹדִיעֵנוּ is the first word of a prayer that is part of the evening service if the holiday falls on a Saturday. *Lettere di* [vatodiénu] means "big letters".

Dr. Yovely explained that the letters were big because the prayer was read when it was dark. However, in the prayer books I have seen (Ashkenazic), it was printed with small letters. In any event, a similar expression is found in Judezmo (Bunis 1979:5).

[xadólja] "madonna". The etymology of this word is disputed. Dr. Yovely believed it was from Hebrew חל [xadál] "to omit, deprive, cease". Vittore Colorni (1970:146), on the other hand, says it is probably from a Tuscan pronunciation of *cattolica* "Catholic".

[xagále] "Christian holiday". From Aramaic חג [xagá] "holiday". I do not know where the final [le] is from, but the word occurs in Judeo-Italian without [le] as well. See Colorni (1970:137).

[xalomód] "dreams". From Hebrew חלומות. It occurs in the expression *Sono tutti* [xalomód] "It's all dreams".

[xaltíssima xerpjáta]. A mocking echo of *Santissima Annunziata* "Holiest Annunciation". [xaltíssima] is the superlative form of [xálto] (q.v.); [xerpjáta] is a lengthened form of חרפה [xerpá] "shame", with an extra syllable so that it may rhyme with *Annunziata*.

[xálto] "bigoted". The etymology of this word is unclear. Dr. Yovely believed that it is related to Hebrew חול [xol] "secular, profane".

[xamišá] "five in playing cards; slap in the face". From Hebrew חמשה "five".

[xamišído]. Same meaning as [xamišá]. From Hebrew חמישיתו "his fifth".

[xanuká, xanukjá] "lamp used on the festival of Hanukkah; ugly woman". In Hebrew, חנוכה [xanuká] is the name of the holiday; חנוכיה [xanukjá] is the name of the lamp. Dr. Yovely was told by a rabbi in

Leghorn that the meaning "ugly woman" comes from a section of the blessing said before lighting the Hanukkah lamp: [en lánu rešúd le-ištaméš ba-ém] "we are not permitted to make use of them". Dr. Roberto Levi informs me that in Ferrara, a beautiful woman was a [mezuzá], from מזוזה, the small cylinder containing verses from the Bible that is attached to the doorpost of a Jewish home. Traditional Jews kiss the [mezuzá] when entering or leaving home. Thus a beautiful woman is equated with something that merits kissing.

[xatsér] "ghetto, Jewish neighborhood". From Hebrew חצר "settlement, courtyard".

[xavertá] "female servant". From Hebrew חבר [xavér] "friend" with the Aramaic feminine suffix תא-.

[xazír] "pork, pig". From Hebrew חזיר. It occurs in the proverb *Chi di [goj] si fida, [xazír] mangia; chi di [judío] si fida non mangia nemmeno questo* "He who trusts a Gentile eats pork; he who trusts a Jew does not even eat that". See [goj], [judío].

[xerpjáta]. See [xaltíssima xerpjáta].

[xinóza] "lovely". From Hebrew חן [xen] "grace" with the Italian feminine adjective suffix -osa.

[xovód] "debts". From Hebrew חובות "obligations". See [kavód].

[zav] "gonorrhea". From Hebrew זב "flowed, gushed".

[zoná]. See [dzoná].

In addition to the items listed above, there are several sayings

collected by Dr. Yovely in which all the words are of Italian origin.

Apri un pan di zamerino, ne trovi un Ebreo. Literally, "You open a pan di zamerino (a raisin bread eaten in Florence); you find a Jew". The implication is that Jews are everywhere.

Bachi della seta. Literally "silkworms". This is a pun on the surnames "Bachi" and "Della Seta". "Bachi" is especially common among the Jews of Turin.

Calò nei camerini. Literally "He (she) fell into the dressing room". This is a pun on the surnames "Calò" and "Camerini", both common among Italian Jews. Another pun is based on the similarity in sound of *nei* "into the" and French *née* "born". If Signorina Camerini married Signor Calò, she would be Signora Calò née Camerini.

La carrozza di Ebrei è di cinque o di sei. "A Jewish coach has five or six people". This saying suggests that many Jews squeeze into a coach to save money.

La legge di Mosè, chi la tira da mani, chi la tira da piè. "The law of Moses can be pulled with the hands or the feet". This means that religious laws may be interpreted in different ways.

Dei Levi, più ne levi, più ne trovi. "As for the Levis, the more you take away, the more you find". This is a pun on the very common Jewish surname "Levi" and the second person singular of the verb *levare* "to lift up". It is similar in meaning to *Apri un pan di zamerino....*

Sinigaglia, metà Ebrei, metà canaglia. "Senigallia, half Jews, half rabble". This saying, like *La carrozza di Ebrei...*, expresses hostility toward Jews. Nevertheless, Jews apparently knew and re-

peated them. See [kašér], [xazír].

As I have stated above, the grammatical peculiarities of the various Judeo-Italian dialects are no longer heard. An extremely small number of people can still generate the morphological and syntactic patterns of Judeo-Italian, among them Vittore Colorni, whose description of Judeo-Mantuan grammar (1970:117-33) is based on his personal knowledge of the language. Nancy C. Dorian, writing of a dying Scottish dialect, said it was dying "with its morphological boots on" (1978:608). Similarly, Judeo-Italian grammar seems to have remained intact among the small and decreasing number of speakers who knew it. I have not read of, nor have I met, speakers who mix Judeo-Italian and standard Italian grammatical forms. There seems to have been no gradual phenomenon analogous to decreolization. Yet the relationship of Judeo-Italian to Italian is very close, quite unlike the Gaelic-English situation described by Dorian.

Vocabulary items, and with them phonemes such as [x], persist after the grammar is gone, leaving a form of speech resembling a professional jargon. Lexical items too are disappearing, but a few words such as *negrigura* (see [šaxarút]) are still quite alive among Italian Jews who know no other Judeo-Italian. How stable these remaining words will be remains to be seen.

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L'IMAGINAIRE EN LINGUISTIQUE*

GUY JUCQUOIS
Université de Louvain

Entre l'interprétation sensée d'un phénomène et ce qu'on appelle une interprétation délirante en psychologie clinique, il n'y a que deux différences: la première, qui est obvie, c'est le critère de réalité, la seconde d'une préhension beaucoup plus délicate et apparemment en cercle vicieux concerne le caractère "plausible" ou non de l'explication.

Comptant revenir ailleurs sur le problème de l'interprétation délirante en tant qu'explication "scientifique", on ne s'attardera guère ici sur les aspects pathologiques du phénomène, mais on centrera cet article au contraire sur le caractère de plausibilité d'une explication d'après *l'ensemble des traits connus et des liens qui les unissent dans un domaine déterminé*. L'analogie avec le comportement humain pathologique est évident: en effet, ce n'est pas uniquement le caractère en porte-à-faux par rapport à la réalité qui distingue le malade de l'homme

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sain, mais c'est l'*histoire de l'individu en tant que déroulement structuré d'évènements* qui le range parmi les malades ou parmi les personnes saines à un degré ou à un autre. L'ensemble de ces traits nécessaires pour juger du caractère sain ou morbide du comportement ou l'ensemble des éléments unis en une théorie scientifique ne sont pas sans rappeler ce qu'en théorie littéraire et en herméneutique on appelle le *contexte*.

Dans les sciences non-expérimentales, il est par définition impossible de vérifier les explications théoriques. S'il s'agit de linguistique, le recours quasi expérimental à un corpus de vérification rend dans certains cas l'explication assimilable théoriquement aux explications des sciences proprement expérimentales. Par exemple, une explication linguistique basée sur l'observation d'un certain nombre de faits tirés d'un corpus suffisamment étendu -- il est clair que la représentativité du corpus est fonction de la probabilité d'occurrence du phénomène étudié -- peut être assimilée à une explication d'une science expérimentale, c'est-à-dire à une *loi*. C'est d'ailleurs le nom que les linguistes réservent bien souvent aux régularités observées dans le domaine de la phonétique et dans celui de la phonologie, tandis qu'ils emploient le terme de *règle* dans le domaine de la morpho-syntaxe. Cet usage qui remonte à l'Ecole des néo-grammairiens s'explique, bien entendu, par la volonté de ces linguistes de ramener l'ensemble des faits linguistiques à des lois identiques à celles des sciences de la nature; il n'empêche que la tradition scientifique des linguistes a conservé en général cette distinction dans l'emploi de ces deux termes.

On peut donc considérer que la situation du linguiste sera très différente s'il travaille sur des faits très nombreux, ce qui lui permet en quelque sorte de "tester" les hypothèses formulées, c'est le plus souvent ainsi lorsqu'il s'agit de langues vivantes, ou si, au contraire, il étudie des phénomènes linguistiques peu documentés. Dans ce cas, son approche s'apparente davantage à celle du paléontologue puisqu'il lui faut interpréter des données éparées dont il importe d'établir une théorie globale cohérente. Cela se produira, par exemple, lorsqu'il faut tenter d'expliquer des phénomènes peu représentés dans un corpus

pourtant fort étendu, par exemple le verbe *être* est, à notre connaissance, le seul en français à présenter une alternance du type *est/sont* entre la troisième personne du singulier et la troisième du pluriel. Même si ces formes sont extrêmement fréquentes dans les textes français, le type d'alternance qu'elle illustrent est lui totalement isolé et fait figure de "fossile".

Un second exemple de faits sur lesquels le linguiste peut être appelé à travailler et qui présente une analogie avec la paléontologie est représenté par la catégorie des langages mal attestés. Il peut s'agir soit de langues encore mal connues de peuplades d'accès difficile et dont un voyageur intrépide a rapporté quelques informations forcément très lacunaires. C'est ce qui se produit pour bon nombre de langues amérindiennes. Dans ce cas, la vérification des hypothèses fait difficulté du fait de l'étendue insuffisante du corpus: celui-ci aurait pu être plus long et, s'il s'agit d'une langue encore vivante, il sera possible ultérieurement de l'étendre aux dimensions souhaitables et nous retombons dès lors dans la première hypothèse envisagée ci-dessus, si par contre il s'agit de langues mortes dont il ne subsiste plus que quelques textes, parfois fort courts, souvent même uniquement des traces toponymiques au point que la réalité de l'existence même de cette langue peut éventuellement être contestée (par exemple toute la controverse sur l'illyrien), les hypothèses formulées doivent tenir compte de ce caractère lacunaire de la documentation et par conséquent de la "vérification" des explications. S'il s'agit de langues mortes aussi bien attestées que le latin, le grec classique, ou le sanskrit, langues pour lesquelles nous possédons en outre des possibilités de contrôle indirect par le biais des langues dérivées ou des formes plus récentes et même contemporaines, on peut admettre dans beaucoup de cas que le travail de "vérification" sur des corpus suffisamment étendus est possible. Si on travaille par contre sur des langues fort mal attestées, on songera par exemple dans le domaine indo-européen au phrygien ou au macédonien ancien, notre connaissance de ces langues sera forcément très incomplète et les hypothèses souvent très hardies, à moins qu'elles ne s'appuient

sur des bases comparatives.

Le troisième et dernier type de faits analogues à ceux qu'étudie le paléontologue est représenté par la catégorie des langues reconstruites. C'est sur cette catégorie que nous nous pencherons dans la suite de cet article afin d'y étudier comment peut y fonctionner l'imaginaire en tant qu'élément introduisant (?) des relations entre des faits jugés jusqu'alors hétérogènes. C'est pourquoi l'analogie avec la paléontologie peut éclairer, nous semble-t-il, cet aspect de la linguistique. Nous ne nous attarderons pas ici sur les problèmes particuliers à la comparaison dite externe, c'est-à-dire celle dans laquelle le linguiste reconstruit un stade antérieur grâce à des traces laissées dans diverses langues dérivées, du moins on le présume et c'est l'hypothèse que le travail de comparaison confirmera ou infirmera, d'une même langue aujourd'hui disparue. Dans ce cas, en effet, le "contrôle" ou la "vérification" de l'hypothèse explicative se fera par une "expérimentation" sur le matériel fourni par diverses langues dérivées; on retombe donc dans une situation déjà décrite, sauf qu'au niveau de la langue ainsi reconstruite le corpus, c'est-à-dire un ensemble de textes représentatifs, fera toujours défaut par définition puisque dans l'hypothèse contraire la reconstruction serait purement gratuite. On rappellera en passant que certaines reconstructions "graduées" ont ainsi été tentées, par exemple du latin à partir des langues romanes, pour vérifier le bien-fondé de la méthode de la reconstruction par comparaisons externes.

Dans la catégorie des langages reconstruits, la comparaison interne nous fournira un exemple privilégié de fonctionnement éventuel de l'imaginaire en tant que "principe d'explication". On entend par comparaison interne ou *reconstruction interne* la reconstruction d'un stade antérieur de la langue à l'aide d'éléments apparemment hétérogènes, c'est-à-dire d'éléments qui semblent appartenir à des systèmes différents, mais qui fonctionnent néanmoins en une synchronie donnée. Par exemple, en français l'opposition fonctionnelle entre le singulier et le pluriel se rend à la troisième personne de l'indicatif présent soit par l'alternance *il chante/ils chantent*, soit par l'alternance d'un tout autre type

il est/ils sont. Les deux types d'alternances s'emploient en une même synchronie, le français contemporain, mais alors qu'ils fonctionnent dans le même système, ils ne peuvent s'expliquer morphologiquement de la même manière: ces formes apparaissent donc comme hétérogènes.

La reconstruction interne se préoccupera d'expliquer cette hétérogénéité des formes en présence, en "démontrant", après avoir éliminé s'il échet l'hypothèse d'un emprunt d'une des formes à une autre langue, leur successivité temporelle ou autrement dit la différence d'âge de ces formes. Dès lors, le linguiste pourra établir, dans le meilleur des cas, une véritable *stratification linguistique* attribuant à chaque type formel un âge au moins relatif; en l'occurrence il apparaîtra que l'opposition fr. *il est/ils sont* est beaucoup plus ancienne que l'opposition fr. *il chante/ils chantent*.

Ainsi, la reconstruction interne devrait permettre en se basant uniquement sur un certain nombre de faits apparemment hétérogènes mais fonctionnant synchroniquement de rétablir l'unité du système de la langue en expliquant les contradictions formelles comme simple résultat d'éléments fossiles non encore disparus, et en attribuant à des périodes différentes, c'est-à-dire à des systèmes partiellement différents, les contradictions dont l'explication synchrone faisait difficulté antérieurement; C'est pourquoi, comme on le signalait en débutant, c'est *l'histoire du système linguistique ainsi reconstruit en tant que déroulement structuré d'événements* qui assurera à elle seule le caractère de plus ou moins grande plausibilité de l'explication proposée par la reconstruction interne.

Par ailleurs, si l'on accepte le principe d'une proportionnalité inverse entre l'âge d'un "témoin linguistique du passé", c'est-à-dire d'une forme "fossile", d'une part et de l'autre la fréquence des traces laissées -- ce qui est évidemment tout différent de la fréquence d'apparition dans un corpus donné, par exemple l'opposition fr. *il est/ils sont* bien qu'unique dans le système français contemporain est néanmoins extrêmement fréquente -- il en découle que plus on remonte dans le temps reconstruit, moins nombreux seront les témoins conservés, ou pour re-

prendre la comparaison éclairante avec la paléontologie on conserve davantage de squelettes du début de notre ère que d'il y a plusieurs centaines de milliers d'années. Par conséquent, si la plausibilité d'une explication dépend, comme nous l'avions supposé en débutant, de *l'ensemble des traits connus et des liens qui les unissent dans un domaine déterminé*, il découle que moins nombreux seront les éléments sur lesquels repose l'explication, moins celle-ci sera plausible intrinsèquement. Cependant, l'explication scientifique devant revêtir un caractère systématique, l'imagination du linguiste devra pourvoir et suppléer à la défaillance des faits afin de "reconstruire les étapes antérieures du système étudié. C'est dans l'écart entre l'observation des faits et la théorie en tant que doctrine cohérente que se place l'imaginaire du linguiste. Cet imaginaire peut donc se déployer d'autant mieux qu'il n'est "entravé" par aucun fait contraire. Nous voudrions illustrer cette question par un exemple repris à la grammaire comparée des langues indo-européennes, à savoir la théorie laryngaliste et la théorie de la racine, exemple qui constituera la seconde partie de cet article.

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Il ne sera peut-être pas inutile de rappeler une dernière fois l'analogie profonde existant sur le point traité ici entre la paléontologie moderne et la linguistique comparative.

En effet, quelques dizaines d'années avant les théories linguistiques saussuriennes dont il s'agira dans la suite, Georges Cuvier bien que voulant démontrer le fixisme des espèces animales introduisait en anatomie comparée les principes de bases qui permettront d'asseoir l'évolutionisme. Les deux principes fondamentaux posés par Cuvier: *loi de subordination des organes* à savoir que toute modification survenue dans une partie d'un organisme a des répercussions sur le restant de cet organisme et *loi de la corrélation des formes* selon laquelle certaines formes s'appellent tandis que d'autres s'excluent. Ces prin-

cipes qui apparaissent dès ses *Leçons d'anatomie comparée* publiées de 1800 à 1805, se développent dans ses *Discours sur les révolutions du globe*. *Recherches sur les ossements fossiles des quadrupèdes* éditées de 1812 à 1825 et enfin dans *Le règne animal distribué d'après son organisation* édité d'abord en quatre volumes en 1817 puis repris et élargi en cinq volumes en 1829-1830. Si nous insistons sur ces données de l'histoire de la paléontologie, c'est que c'est grâce à ces principes que put s'ériger la paléontologie moderne dont les fondements étaient donc structuralistes et fonctionnalistes. C'est en se basant sur ces deux règles méthodologiques que Cuvier put prédire et reconstruire logiquement la structure complète de certains fossiles, non seulement l'ossature mais aussi le style de vie, uniquement d'après les éléments apparemment fort ténus à sa disposition. Les découvertes ultérieures de certains autres éléments stupéfièrent le monde scientifique du fait de la confirmation de beaucoup des vues de Cuvier.

Les attaches de la famille de Saussure avec les sciences naturelles ne sont plus à rappeler: avant qu'un de ses membres ne s'adonnât à la linguistique, cette famille genevoise comptait déjà plusieurs savants éminents et qui s'étaient distingués dans ces disciplines. L'histoire de la linguistique a retracé les influences dont Ferdinand de Saussure devait être redevable à son milieu familial. Nous ne les rappellerons pas à nouveau, si ce n'est pour souligner l'analogie frappante entre les deux lois de Cuvier et les principes mis en oeuvre par de Saussure dans ses reconstructions linguistiques. Pour ce dernier également, on peut affirmer qu'il jeta les bases d'une linguistique moderne résolument structuraliste et fonctionnaliste.

* * *

La première découverte de Saussure, et comme le rappelle A. Meillet (1952:175) il ne fut pas le seul à la faire au même moment, fut de démontrer que l'opposition entre les voyelles *e*, *o*, et *a*, attestée par exemple par le grec classique, ou d'une manière différente par le vieux-

slave, l'italique, ou le germanique, n'est pas secondaire comme on le croyait en se fondant sur le sanskrit qui n'a, apparemment dans les mêmes contextes, que la voyelle *a* dont on attribuait dès lors, mais à tort, l'ancienneté à l'époque indo-européenne. Déjà c'est l'observation du traitement différent d'une ancienne vélaière devant cette voyelle unique conservée par le sanskrit qui conduisit de Saussure, et d'autres comparatistes contemporains, à la conclusion que ces différences de traitements de l'ancienne vélaière correspondaient uniquement aux assimilations faites à la voyelle suivante. Cette observation impliquait donc une décomposition des faits en trois stades distincts obtenus par reconstruction interne et qu'on pourrait représenter schématiquement de la manière suivante:

- Stade 1 Vélaières + *e*, *o*, ou *a* sans assimilation de la vélaière à la voyelle suivante.
- Stade 2 Vélaières + *o* ou *a* avec maintien du timbre ancien de la vélaière devant voyelle médiane ou postpalatale;
Vélaières palatalisées + *e* avec assimilation de la vélaière à la voyelle prépalatale suivante.
- Stade 3 Confusion des timbres vocaliques *e*, *o*, et *a* évoluant tous trois en sanskrit en *a*, tandis que d'autres groupes de langues indo-européennes (par ex. le grec classique) conservaient le stade ancien représenté par 1 ici.

Il est important de remarquer à cet égard, que ce n'est qu'une "décentration" de l'attention des chercheurs de chaque voyelle et de chaque correspondance, pour prendre en charge l'entourage phonétique de chaque son qui a permis de découvrir comment, au fond, les différences de timbre vocalique représentées au stade 1 n'avaient disparu qu'en apparence au stade 3 en sanskrit, puisque l'opposition était partiellement reportée sur une vélaière précédente. Cette constatation, de Saussure en fit part aux linguistes parisiens en 1877.

Un an plus tard, le même auteur publiait son *Mémoire sur le système primitif des voyelles dans les langues indo-européennes* édité

seulement en 1879. On nous permettra d'en résumer l'essentiel d'après la notice nécrologique d'A. Meillet (1952:176) consacrée à la vie et à l'oeuvre de Saussure:

"toutes les alternances vocaliques qu'offrent les anciennes langues indo-européennes sont ramenées à celles d'une seule et même voyelle qui, tantôt a la forme *e*, tantôt la forme *o*, et tantôt manque tout à fait. Ce que l'on appelle les voyelles *i* et *u*, ce ne sont pas des voyelles proprement dites; ce sont les formes vocaliques de sonantes qui apparaissent ailleurs sous la forme soit de seconds éléments de diphthongues, soit de consonnes *y* et *w*; les voyelles *i* et *u* ne sont que des *y* et *w* voyelles, parallèles à \bar{y} , \bar{l} , \bar{n} , \bar{m} , en regard des consonnes *r*, *l*, *n*, *m*. Même les voyelles \bar{a} , \bar{e} , \bar{o} des types tels que ἰσάμην, τίθημι, δίδωμι du grec se ramènent au type général; tout se passe comme si elles étaient composées de *e* (alternant avec *o*, zéro) et d'un élément spécial, qui apparaît à l'état isolé, en sanskrit comme *i*, en latin comme \bar{a} , en grec ᾱ, ε, ou ο, à savoir le type de skr. *pítár-*, gr. πατήρ-, lat. *pater*. Le vocalisme indo-européen était ainsi réduit à un système rigoureux où toutes les alternances régulières employées dans les formes grammaticales trouvaient leur place naturelle, et qui s'impose par là même à l'esprit avec la clarté de l'évidence. La théorie de l'élément qui est représenté en sanskrit par *i*, en latin par \bar{a} , etc., conduisait à poser des racines dissyllabiques dont cet élément constitue la seconde tranche; toute une série de formes des sonantes, les sonantes 'longues', étaient expliquées par là. Les verbes sanskrits du type *punāti* et grecs du type δάμναμι étaient tout éclairés par cette doctrine: ils entraient dans la série du type skr. *yunákti*, qui, du coup, se dénonçait comme ayant une antiquité indo-européenne, bien qu'il soit attesté dans le seul groupe indo-iranien. La découverte du système des voyelles indo-européennes trouvait sa vérification par ceci, qu'elle permettait pour la première fois d'interpréter correctement de nombreux faits et de phonétique et de morphologie" (ces dernières italiques sont de nous).

En d'autres termes, l'hypothèse de Saussure trouve sa vérification dans le fait qu'il permet de rendre compte par une seule loi d'un ensemble de fait auparavant considérés comme disparats. Afin d'explicitier cette théorie pour les lecteurs non spécialisés dans la domaine du comparatisme indo-européen, montrons en quoi de Saussure a ramené un ensemble de fait apparemment hétérogènes à une règle unique. Dans ce but, nous supposerons exacte le coupe radicale des exemples qui suivent, sup-

position qui dans ce contexte n'aura d'autre incidence que de simplifier l'exposé. Nous constaterons néanmoins que la théorie saussurienne et davantage encore celle de Benveniste qui en constitue l'aboutissement théorique présuppose exacte l'hypothèse d'une racine toujours bâtie sur le même schéma, du moins à la période suffisamment archaïque de l'indo-européen à laquelle se situe cette théorie.

Il était admis que les éléments morphologiques indo-européens étaient susceptibles d'une alternance vocalique du type classique, soit $C\check{e}C \sim C\ddot{e}C \sim CC$, où C représente une consonne quelconque différente toutefois à l'initiale et à la finale et soumise à certaines règles d'exclusion ou au contraire de préférence entre l'initiale et la "finale" de la racine, règles dont l'étude n'est encore guère poussée mais qui paraissent sans rapport avec notre propos actuel. C'est une alternance de ce type que l'on trouvait dans des formes telles que le nom indo-européen du "pied", $*p\check{e}d-$, $*p\ddot{e}d-$, $*pd-$ > $*bd-$. Bien que fort répandue et bien attestée dans diverses langues à date historique, cette alternance ne rendait pas compte de tous les phénomènes. En particulier, subsistait un certain nombre de formes reconstruites dans lesquelles faisait défaut soit, pour une partie d'entre elles, la première consonne "radicale", soit, pour une autre partie de celles-ci, la seconde consonne "radicale", c'est ainsi que l'on reconstruisait une racine du nom du "champ" i.e. $*\check{a}g-$ ou une racine indo-européenne pour "manger" $*\check{e}d-$, sans consonne radicale initiale, soit une racine "donner" i.e. $*d\ddot{o}-$, soit enfin une racine "placer" i.e. $*dh\ddot{e}-$, etc.

Ces formes "défectives" présentaient en outre une particularité remarquable, outre l'absence de la première ou de la seconde consonne radicale, à savoir l'absence quasi générale d'alternances vocaliques, ainsi $*\check{a}g-$ ou $*\check{e}d-$ n'existaient que sous cette forme, même si pour cette dernière racine sont attestées également des formes à degré dit allongé ($*\ddot{e}d-$) et des formes à degré zéro (par ex. dans le nom de la "dent" s'il appartient bien à la même racine: i.e. $*d\ddot{o}nt-$ ou $*d\check{n}t-$).

Dans la théorie dont il fut l'initiateur et qui connut ensuite un grand succès, notamment en phonologie diachronique des langues indo-eu-

ropéennes sous le nom de théorie laryngaliste, du nom des sons que de Saussure avait cru pouvoir reconstruire afin d'uniformiser la théorie des alternances. En effet, pour ramener les "irrégularités" signalées ci-dessus à une loi simple qui soit aussi la loi générale, il suffisait de poser quelques règles dont nous reproduisons l'essentiel dans leur formulation moderne:

Il existait en indo-européen, à une période antérieure à celle dont rendent compte les faits hétérogènes rappelés ci-dessus, un seul type de "racine" avec une seule alternance possible, savoir celle rapportée plus haut et présentant les variations vocaliques suivantes: $\check{e} \sim \check{o} \sim \check{z}ero$.

Certains sons pouvaient fonctionner comme centre de syllabe, comme on en voit encore la possibilité dans de nombreuses langues, par exemple en s.-cr. *kānj*, "tronqué, mutilé", etc., ces sons phonétiquement proches des consonnes, mais phonologiquement en fonction de voyelles, sont appelés des sonantes. Ce sont, bien entendu, les semi-voyelles, mais aussi les liquides et nasales.

Pour ramener à une forme canonique unique les "racines" défactives, il suffisait dès lors de supposer qu'entre la période plus archaïque à laquelle renvoie la première règle ci-dessus et l'indo-européen que l'on peut atteindre par la comparaison et la reconstruction externe, il y aurait eu un stade intermédiaire durant lequel deux phénomènes évolutifs se seraient produits: le premier une modification du timbre d'une voyelle précédente ou suivante au contact de certaines sonantes autres que les semi-voyelles, les liquides, et les nasales, sonantes appelées par analogie au moins typologique avec les langues sémitiques "laryngales". Ces nouvelles sonantes, les shewa de la théorie classique, sont souvent représentées par le signe ϱ et comme les variations vocaliques décelées sont de trois types (présence d'un *e* sans alternance dans une "racine", soit présence d'un *a* sans alternance dans une "racine", soit enfin présence d'un *o* sans alternance dans une "racine) on a convenu d'attribuer les variations vocaliques vers le timbre *e* à la laryngale appelée ϱ_1 , celles vers le timbre *a* à la laryngale appelée ϱ_2 , et enfin celles vers le timbre *o* à la laryngale appelée ϱ_3 . Le second phénomène phonétique qu'il était nécessaire de supposer dans cette période intermédiaire était la disparition de ces laryngales devant voyelle avec modification des timbres selon les règles ci-dessus, disparition également après voyelle et devant consonne avec les mêmes modifications des timbres vocaliques et en outre allongement compensatoire de cette voyelle précédente ainsi modifiée,

enfin entre voyelles il y avait probablement chute de la laryngale sans allongement et entre consonnes cette laryngale se "vocalisait" comme n'importe quelle sonante.

Pour illustrer ce qui précède à l'aide d'un exemple simple, supposons la "racine" indo-européenne $*\check{\alpha}\hat{g}-$, "conduire, mener", probablement homophonique de celle citée plus haut et signifiant "champ". Les règles laryngalistes nous permettent de faire remonter cette forme reconstruite et de date indo-européenne commune à une forme plus ancienne $*\check{\alpha}_2\check{\epsilon}\hat{g}-$ / $*\check{\alpha}_2\check{\omicron}\hat{g}-$ / $*\check{\alpha}_2\hat{g}-$. La laryngale $*\check{\alpha}_2$ devant voyelle s'est amuie avant le stade atteint par la reconstruction externe, modifiant dans les deux premiers degrés de la racine les voyelles $*\check{\epsilon}$ et $*\check{\omicron}$ en $*\check{\alpha}$, et dans le degré zéro avec une vocalisation en $*\check{\alpha}$ de cette sonante laryngale.

En résumé, l'hypothèse laryngaliste saussurienne permettait, en étaguant les formes synchrones hétérogènes en plusieurs stades successifs dont le dernier n'aurait conservé des précédents que des traces fossiles, de rendre compte en une seule formule ou mieux *d'expliquer par une seule loi l'ensemble de la morphologie indo-européenne*. Ceci n'est pas explicité chez de Saussure, mais le sera par son successeur dans une oeuvre célèbre dont il s'agira ci-dessous: E. Benveniste, *Origines de la formation des noms en indo-européen* (Paris, 1935).

Dans cette perspective, il s'impose de reconstruire ces formes hétérogènes en trois stades (la division du processus, ici comme plus haut, en un certain nombre de stades ne préjuge en rien de la réalité phonologique de ces évolutions, mais constitue simplement un moyen commode d'exposer les faits):

- Stade 1 Toutes les racines subissent, selon les règles morphologiques précises des alternances identiques: degré plein ($*\check{\epsilon}$) / degré fléchi ($*\check{\omicron}$) / degré zéro ($*-$). On a donc $*\check{\alpha}_2\check{\epsilon}\hat{g}-$ / $*\check{\alpha}_2\check{\omicron}\hat{g}-$ / $*\check{\alpha}_2\hat{g}-$, de même que $*\check{p}\check{\epsilon}d-$ / $*\check{p}\check{\omicron}d-$ / $*\check{p}d-$.
- Stade 2 Modifications des timbres vocaliques sous l'action des laryngales, d'où par ex. $*\check{\alpha}_2\check{\alpha}\hat{g}-$ / $*\check{\alpha}_2\check{\alpha}\hat{g}-$ / $*\check{\alpha}_2\hat{g}-$, tandis que l'alternance $*\check{p}\check{\epsilon}d-$ / $*\check{p}\check{\omicron}d-$ / $*\check{p}d-$ demeure évidemment inchangée.

Stade 3 Chutes des laryngales avec les allongements compensatoires éventuels, vocalisation des laryngales centre de syllabe, d'où la racine non-alternante reconstruite **ǎḡ-/*ǎḡ-/*ǎḡ-* face à la racine alternante **pěd-/*pōd-/*pd-* toujours identique à ce qu'elle fut depuis le stade 1.

Avant de poursuivre, il sera sans doute utile de signaler pour les non comparatistes, que de même que Cuvier avait pu par les règles méthodologiques qu'il s'était imposées prévoir, c'est-à-dire décrire avant leur découverte, les fossiles qu'il avait reconstruits à partir de quelques éléments, ainsi de Saussure avait supposé l'existence de ces sonantes disparues dès l'époque commune, mais dont la trace lui apparaissait fonctionnellement dans sa théorie morphologique. La découverte de textes hittites nésites et leur déchiffrement à partir de 1917 devait apporter une confirmation, partielle du moins, des théories saussuriennes, puisque cette langue indo-européenne avait conservé de nombreuses traces de ces laryngales. Le détail des faits laissant d'ailleurs subsister de nombreuses difficultés au point que si une confirmation de principe de l'existence de cette catégorie de phonèmes à un stade plus archaïque de l'indo-européen n'est plus guère mise en doute, les règles laryngalistes elles-mêmes continuent de laisser bon nombre de comparatistes fort sceptiques. Quelle que soit la théorie laryngaliste acceptée, et il en existe de très nombreuses variantes depuis de Saussure, elle ne permet jamais de rendre compte de l'ensemble des faits ni au niveau de l'indo-européen et des langues dérivées, ni à celui des dialectes hittites. Ces restrictions ne diminuent évidemment pas la validité d'un principe laryngaliste, mais elles prétendent simplement en restreindre la portée nettement exagérée dans certains travaux;

* * *

La théorie saussurienne, brièvement formulée dans une de ses présentations classiques contemporaines, permettait d'ambitionner de re-

construire toute la morphologie de l'indo-européen archaïque à l'aide d'une seule loi comme nous le signalions plus haut. C'est à E. Benveniste que revient le mérite d'en avoir fait l'exposé le plus complet en un travail qui l'a rendu célèbre et dont la doctrine fait autorité à ce jour dans le domaine de la morphologie indo-européenne: *Origines de la formation des noms en indo-européen*, publié à Paris en 1935.

En effet, la théorie laryngaliste saussurienne reposait implicitement sur une théorie de la racine, que de Saussure ne nous livre pas comme telle, et par conséquent sur une théorie de la suffixation et donc de la dérivation en indo-européen. C'est ainsi que le caractère hétérogène des alternances étudiées par de Saussure ne peut apparaître comme tel qu'en supposant un élément morphologique dont les limites sont tracées, la racine, suivi le cas échéant d'autres éléments morphologiques, les suffixes et enfin la désinence. En outre, la théorie saussurienne implique pour l'époque plus archaïque de l'indo-européen ainsi postulée une utilisation plus fonctionnelle des alternances vocaliques à des fins morphologiques précises, théorie renvoyant elle-même probablement à une origine tonologique antérieure des alternances vocaliques classiques. Somme toute, ceci précisé sans que cela n'implique quoi que ce soit sur le plan génétique d'une éventuelle parenté des deux familles linguistiques, l'indo-européen qu'implique implicitement la théorie saussurienne est fort proche *typologiquement* du sémitique commun ou même de l'arabe classique;

Logiquement, il découlait de la théorie laryngaliste saussurienne une théorie de la morphologie indo-européenne présentant les caractéristiques suivantes:

L'élément central du mot, la racine, devait être défini comme la succession de deux consonnes dont la vocalisation subissait les variations des alternances classiques. Ces variations étaient liées à des classes morphologiques, telle classe morphologique exigeant tel degré de la racine, et succédaient sans doute à d'anciennes variations tonologiques (cette dernière partie de la théorie n'est pas strictement requise par ce qui précède).

Dans son volume de 1935, Benveniste commence lui aussi par examiner un certain nombre de formes dont l'analyse semble aberrante d'après la théorie classique de la racine et il montre comment *du moins dans les cas étudiés à titre d'exemples* il y aurait intérêt à introduire une nouvelle définition de la racine et, par conséquent, des autres éléments morphologiques de l'indo-européen. Jusqu'alors, en effet, même si les théories saussuriennes étaient assez largement acceptées sur le plan phonologique, c'est-à-dire dans leur aspect laryngaliste, la théorie morphologique classique continuait curieusement à prévaloir, comme si les deux théories pouvaient exister indépendamment l'une de l'autre. La théorie morphologique classique reçut d'un des disciples de de Saussure, disciple qui fut le Maître de Benveniste, savoir d'Antoine Meillet sa formulation la plus achevée (Meillet 1937:147 sq., 153 sq.) dont nous avons fait l'analyse critique ailleurs (Jucquois 1972).

Il ne serait pas utile pour notre propos actuel de nous étendre sur cette doctrine classique une nouvelle fois, remarquons simplement la contradiction déjà présente chez de Saussure de ne pas définir explicitement la racine mais de se rattacher à une conception implicite de cette dernière afin d'établir une forme canonique des racines et par conséquent de formuler la théorie laryngaliste. On notera également que, dans cette perspective, l'erreur méthodologique peut n'être sans incidence sur le degré de pertinence de la théorie dérivée. En d'autres termes, la théorie laryngaliste peut être plus ou moins pertinente *indépendamment* du degré de pertinence des bases sur lesquelles elle repose. Il n'empêche que cette dissociation de la théorie laryngaliste d'une théorie morphologique et plus particulièrement d'une théorie de la racine fait difficulté d'un point de vue épistémologique. Il est d'autant plus remarquable dans ces conditions de constater combien cette dissociation est encore plus profonde dans les formulations classiques de la morphologie: chez A. Meillet (1937:146 sq. et 153 sq., 173 sq.) le chapitre intitulé "Principes de la morphologie" débute par une "Analyse du mot", se poursuit par une étude des "Alternances" et

débouche sur un examen "De la forme des éléments morphologiques" pour se terminer par un rapide coup d'oeil sur les "diverses espèces de mots" (p. 187 sq.).

Bouclant le cercle, en quelque sorte, Benveniste dans ses *Origines de la formation des noms en indo-européen* (1935) utilisant largement la théorie laryngaliste saussurienne exposée plus haut aboutit à *des reconstructions billantes dans les formes prises à titre d'exemples* et dès lors critiquant le manque d'unité de la théorie de la racine dans sa formulation classique, telle qu'elle est représentée chez Meillet (Benveniste 1935:147 sq.) et estimant qu'elle est "*d'une irrégularité et d'une complication qui défient l'ordonnance*" (Benveniste 1935:147, les italiques sont de nous) nous propose une théorie morphologique, c'est-à-dire de la racine et de la suffixation en accord avec la théorie laryngaliste dont il vient de donner une nouvelle fois des applications heureuses.

Si on fait abstraction d'imperfections et même d'erreurs de formulation sur lesquelles nous ne nous répéterons pas (cf. Jucquois 1976: 67 sq.), la théorie proposée par Benveniste peut être résumée comme suit:

La racine indo-européenne est monosyllabique composée de deux consonnes de n'importe quel ordre pourvu qu'elles soient différentes la première de la seconde, en excluant en outre "la co-existence d'une sourde et d'une sonore aspirée" (Benveniste 1935:170).

Benveniste tente de maintenir à ce niveau la distinction estimée fondamentale par ses Maîtres et toute la tradition indo-européenne et sémitisante d'une morphologie tout à fait différente des langues indo-européennes et des langues sémitiques. En fait, si le mot sémitique peut être défini formellement comme étant une charpente consonantique vocalisée et affixée selon les fonctions morphologiques, on aboutit exactement à la même définition pour le mot indo-européen, dans les deux cas d'ailleurs les éléments désinentiels viennent s'additionner aux éléments déjà mentionnés.

Le schéma théorique auquel aboutit donc Benveniste est le suivant: $*C_1\check{C}_2/*C_1\check{\delta}C_2/*C_1C_2$, avec les alternances classiques déjà étudiées plus haut. Le choix du degré de l'alternance étant conditionné par la fonction morphologique du mot dans l'énoncé, il en découle qu'il n'est donc normalement pas pertinent du point de vue d'une différenciation sémantique des racines indo-européennes. L'ultime conclusion à tirer de cette position est que *l'unique schéma structural des racines indo-européennes ne peut donc être que $*C_1$ (...) C_2 , où (...) représente l'éventuelle présence d'une voyelle morphologique à valeur soit dérivationnelle, soit simplement flexionnelle, mais en tout cas sans valeur radicale distinctive.*

On voit donc comment, alors que de Saussure était parti d'une conception implicite de la forme des éléments morphologiques constitutifs du mot en indo-européen pour édifier sa théorie des sonantes laryngales, devenue ensuite la théorie laryngaliste, que cette théorie fut partiellement confirmée par la découverte ultérieure de formes hittites où ces laryngales étaient éventuellement conservées mais aussi par des reconstructions nouvelles en indo-européen, comment Benveniste en tira une doctrine structurale de la racine, dont une confirmation partielle fut elle aussi apportée par de nouvelles et fructueuses reconstructions en indo-européen d'un niveau plus archaïque, et, malgré lui sans doute, des éléments nouveaux pour étayer davantage l'hypothèse d'une unité génétique des langues indo-européennes et des langues sémitiques. L'hypothèse de Benveniste justifiait comme a posteriori la théorie de de Saussure, tandis que cette dernière impliquait presque a priori la première. Ainsi présentés les faits paraissent en cercle vicieux: ce qui libère la théorie de cette faute épistémologique, c'est sa fécondité partielle et les confirmations dont nous faisons état ci-dessus.

* * *

Il nous reste en terminant à troubler l'esprit du lecteur en le ramenant à notre propos initial apparemment peu en accord avec les

dernières conclusions que nous venons de tirer ci-dessus. En débutant, nous nous proposons *d'examiner dans quelle mesure l'imaginaire pouvait fonctionner librement et valablement en linguistique*. Pour étudier ce problème, nous nous sommes borné à une question, sans doute limitée techniquement mais néanmoins centrale en linguistique génétique. On a constaté que l'imagination saussurienne avait enfanté une théorie partiellement falsifiable ultérieurement par le déchiffrement du hittite. On a remarqué que ce n'avait été effectué qu'au prix d'un certain flou sur les présupposés de cet imaginaire. En effet, si de Saussure avait commencé par expliciter ce qu'il fallait entendre formellement et sémantiquement par la racine, il aurait dû tenir compte de cas dont la prise en charge lui aurait précisément interdit d'imaginer sa théorie des sonantes laryngales et autres.

Les mêmes observations doivent être formulées au sujet de la théorie benvenistienne de la racine: ce n'est qu'au prix des imperfections, des erreurs et somme toute d'un flou épistémologique certain sur lequel nous nous sommes prononcé ailleurs (Jucquois 1976:67 sq.), que Benveniste peut aboutir à une théorie élégante de la racine et par conséquent de toute la morphologie indo-européenne à un stade fort archaïque. Ici aussi, les présupposés de cette théorie de la racine ne sont pas explicités par Benveniste, mais en outre leur examen aboutit à mettre en évidence des contradictions. Pourtant, telle quelle cette théorie fut acceptée par le monde scientifique quasi unanimement, peut-être également grâce à certaines confirmations a posteriori de la théorie dans de nouveaux rapprochements lexicaux au caractère hautement probable. Ici aussi, si Benveniste avait entamé sa démarche en précisant rigoureusement ce qu'il fallait entendre par les éléments théoriques qui constituaient la base de sa théorie, si les présupposés avaient été soigneusement formulés, sans doute aurait-il été incapable ensuite de laisser libre cours à son imaginaire et sa théorie de la racine n'aurait-elle probablement jamais vu le jour!

Les remarques qui précèdent n'ont rien de nouveau sur le plan de l'épistémologie générale; elles peuvent être formulées de la manière

suivante: à partir de prémisses erronées, il est possible d'aboutir à des conclusions exactes. Voyons à présent comment il serait possible, dans le cas de ces théories linguistiques, de départager un imaginaire constructif et vérifiable d'un imaginaire qui a toute chance d'être erroné et par conséquent nuisible du point de vue de la théorie.

Dans ce but, nous avons dans des recherches déjà publiées (Jucquois 1976:53 sq., 67 sq.) supposé exactes les théories phonologiques et morphologiques concernant l'indo-européen archaïque (théorie laryngaliste, théorie de la racine et du mot) et nous en avons tiré toutes les conclusions déductibles logiquement.

Nous ne pouvons reprendre dans le détail et avec tout l'apparat technique ce qui a été développé longuement dans notre travail cité ci-dessus, mais en résumé notre démarche a été la suivante: nous avons donc supposé que ces théories étaient exactes et en se basant sur elles, nous avons reconstruit la totalité du lexique indo-européen, soit plus de deux milles racines. Nous avons alors obtenu les constatations que ce lexique était extrêmement largement homophonique, seule 107 racines n'ont pas d'homophone(s); toutes les autres en ont au moins un et certaines racines peuvent avoir jusqu'à près de cinquante homophones. Ce fait en lui-même est, tant du point de vue de la linguistique générale que du point de vue d'une théorie de la communication ou de la théorie de l'information, *rigoureusement impossible*. L'examen de langues réputées pour leur monosyllabisme très prononcé et leur polytonie, telle que le chinois classique ou le khmer, montre bien également l'écart entre une "homophonie" qui ne nous paraît telle que parce que nos oreilles sont peu habituées à différencier les tons que les sujets parlant ces langues utilisent sans difficulté particulière et par ailleurs ce que serait l'homophonie total (ou presque) et profonde de cet indo-européen que les théories de Saussure et de Benveniste nous poussent à reconstruire.

Seconde constatation aussi troublante que la première: le taux d'"homophonie" d'une forme radicale quelconque est liée à la nature sonantique ou non de son second élément. Or, cette relation précise

et générale est *absolument impossible* car elle serait la négation au second degré, dirions-nous, du fameux principe de l'arbitrarité du signe. En effet, on ne voit pas quelle justification pourrait être avancée pour expliquer *la relation qui existerait entre l'homophonie d'une forme radicale (caractère morphologique et sémantique) et sa structure phonologique (présence ou non d'une sonante en tant que seconde radicale)*.

On voit donc comment le caractère *partiellement erroné des prémisses a abouti successivement à proposer deux théories dont une vérification empirique sembla pour un certain nombre de cas fondée, mais dont l'extension à l'ensemble de la protolangue conduit inéluctablement à des conclusions manifestement erronées*. Ainsi a priori la frontière peut paraître bien mince entre l'imagination créatrice et celle qui, au contraire, peut égarer l'homme de science.

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THE GENITIVE SINGULAR ENDING IN *-syo*;
HOW AN INDO-EUROPEANIST WORKS

WINFRED P. LEHMANN
The University of Texas at Austin

Indo-European studies have a long tradition, as the work of scholars like Kerns demonstrates. There is no possibility of the introduction of a new paradigm which would upset earlier achievements, modifying the data and terminology of predecessors. Rather than such a Kuhnian paradigm, new data and finer methods of analysis bring Indo-Europeanists to new insights, which generally concern only a portion of the Indo-European structure erected by our predecessors, a diminishingly small portion as the field of Indo-European studies grows more mature. For much of the stock of Indo-European forms we can use the reconstructions proposed a century ago, thereupon codified in the great grammars and compendia of scholars like Brugmann and Wackernagel as well as the shorter handbooks of scholars like Streitberg. These will never become totally obsolete.

Not that Indo-Europeanists fail to base their study on theoretical procedures, which in time come to be modified! Scholars outside the field may be misled by the absence of explicit statements on theory in contrast with the highlighting of data. The first great Indo-Europeanist, Franz Bopp, may have set the pattern by concentrating on the forms of the early languages and simply stating his analyses of them without including the theoretical views that led to these. An important statement on the "linguistic conceptions of Franz Bopp" has provided an illuminating commentary on the theoretical views which direct Bopp's work

(Verburg 1950). This demonstrates how Bopp's "composition-dogma", which has remained attractive to many scholars for its clarification of morphology, rests on his fundamental conceptions about language in the tradition of Leibniz. While Bopp was not explicit about his theoretical stance in his influential comparative grammar, this stance directed much of the subsequent linguistic study of Indo-European. The classical presentation of morphology had been established. Subsequent study introduced modifications, but largely by detailed examination of structural irregularities, often known as exceptions.

Such exceptions played an even greater role in the clarification of Indo-European phonology. Just as Bopp used a logically-based analysis of words into roots and affixes to depict morphology, the early phonologists developed a phonological framework from biology. Classical grammars had already recognized the major sound-types, but also used misleading classifications, such as "aspirate" for fricatives. In accordance with the view of one of the earliest influential phoneticians, Brücke -- a physician, phonological systems were classified by their place of articulation -- labials, dentals, etc. -- their manner of articulation -- stops, fricatives, etc. -- and by other physiological characteristics. Increased use of such insights led to clarification of the Indo-European system, to the recognition for example of several sets of velars, e.g., k^w and k , which in turn had palatal and velar sub-classes. Like the treatment of morphology, which through Leibniz owes much to classical logic, so that of phonology is based on classical grammar, with modifications added as further patterns are clarified.

In this way the working principles of Indo-European studies may be viewed as elaborations of even earlier principles established in the long study of language. On such principles the formulations of Indo-European phonology and morphology, and indeed syntax too, have been based. In the highly developed field of Indo-European linguistics today, one may only hope to illuminate details through drawing a more complete understanding of the data or on an improved understanding of language as more of its features become clear to us, in great measure

through knowledge of additional linguistic structures and their patterning as in recent typological investigation.

Kerns in this way examined problems in phonology and morphology, clarifying previously obscure segments of the edifice of Indo-European. In recognition of his work, two problems in these areas with a bearing on syntax will be reviewed here in relation to the theory applied to their treatment. Besides illustrating procedures used in our field, they may also indicate its status as based on the achievements of our predecessors; these achievements can be elaborated by not overthrown.

Our phonological problem concerns a passage in Meillet's *Introduction à l'étude comparative des langues indo-européennes* (1937:135). Here Meillet is dealing with the realizations of contiguous Proto-Indo-European resonants (R as opposed to C for obstruents, V for vowels, and X for laryngeals). When citing examples for the environment: C__V, he lists as exception: Skt. *pítr(i)yaḥ*, Gk. *πάτριος*, Lat. *patrius* "paternal". According to his statement on the realization pattern in this environment, the sequence should be: \sqrt{RR} , as in the following:

(1)	Skt. <i>śúnah</i>	Gk. <i>κυνός</i> (gen.) "of a dog"
	Skt. <i>diváh</i>	Gk. <i>Διφός</i> (gen.) "of heaven, Zeus"
	Skt. <i>himáh</i>	Gk. <i>-χίμος</i> "winter"
	Skt. <i>catúrah</i>	Lith. <i>keturi</i> "four"

On the pattern of these (C \sqrt{RR} V as in the Edgertonian pattern /+iwa/), Meillet expects PIE **pētryos*. To account for the well-attested forms, he takes recourse to analogy, pointing out that elsewhere too the rule for resonants is limited in its extent by analogy. In accordance with the pattern of work established by von Raumer, Grassmann, Verner, and others, we would like to remove Meillet's exception.

The solution has already been given. When we examine Edgerton's patterns for the realization of two contiguous resonants, we find that *pítriyah* and its cognates are in accord with them (cf. Lehmann 1952:11). According to Edgerton's conclusions, the first three examples cited in

(1) follow the pattern /+iwa/; *pitr(i)yaḥ* however follows the pattern /a+yuwa/. The pattern /+iwa/ parallels that of /ā+iwa/ (= /aX+iwa/) and /k+iwa/ in having as triggering mechanisms the equivalent of two preceding consonants, in /+iwa/ pre-initial juncture plus consonant, i.e., /|+iwa/. The /a+yuwa/ of *pitrīyaḥ*, on the other hand, has only one consonant preceding R. There then is no exception, to be explained by analogy. The more detailed analysis of realization of resonants, as carried out by Edgerton in his well-known elaboration of Sievers' Law, solves the problem.

If *pitrīyaḥ* is regular, *catūraḥ* on the other hand may seem to be a problem. It is not, for the Sanskrit sequence is the result of internal Indic change. Wackernagel and Debrunner posited for its PIE etymon before a vowel: **q^ueturr-*, the same pattern as *pitrīyaḥ* (1930:348). Meillet's (1937:135) discussion then needs amplification on it as well. All the forms cited are in accordance with Sievers' Law, in the more explicit form published by Edgerton a dozen or so years after the appearance of the third volume of Wackernagel's *Altindische Grammatik*.

A further problem is more complex, and less clearly solved, largely because scientific procedures do not provide for a complete solution; such a solution would be possible only if we had ample contemporary data. This problem has to do with the distribution of relative pronouns in the early dialects and with a more complex matter: the presence of a relative pronoun in Proto-Indo-European.

The standard handbooks treat this matter with assurance. Proto-Indo-European for them had a relative pronoun. This was based on **yo-*. The reasoning in favor of this position is readily stated. All Indo-European dialects known to Brugmann and his contemporaries had relative pronouns; consequently the parent language too had one. There was a questioner, Jacobi, in his remarkable monograph of 1897, *Compositum und Nebensatz*, but his information on languages with relative clauses introduced simply by preposing, as in Maori and Japanese, had no influence (cf. Lehmann 1974:60-1). Having concluded that Proto-Indo-European had a relative marker, the classical Indo-Europeanists posited **yo-*, since

this is the basis of the marker in the most ancient dialects they knew, Indo-Aryan and Greek, as well as Armenian and possibly Faliscan.

Even though the subsequent discovery of Hittite, with its relative marker based on **k^we-* and its preposed relative clauses, changed the basis for the earlier conclusion, this view is still widely held. Thoughtful scholars however have reservations. In a review of *Proto-Indo-European Syntax*, Jeffers asks, rightly: "We cannot presume to have explained an historical syntactic phenomenon (or any historical linguistic fact, for that matter) if we are unable to show how the reconstructed system can account for reflexes of the daughter languages, and through what stages the extant systems come to be reconstructed from the reconstructed one. Why, for example, should elements like **k^ue-* and *-yo* come to be reinterpreted as relative pronouns with such consistency in the dialects, if PIE lacked any form of relative marking" (p. 119)? (Jeffers 1976:984). Here a part of Jeffers' question will be answered; something of the "stages through which extant systems" of Indo-Iranian and Greek passed will be indicated.

The position I demonstrated in *Proto-Indo-European Syntax* is here maintained: at one stage, PIE had no relative pronoun. The markers found in the dialects were developed as the parent language expanded and divided into sub-groups, such as the widely assumed Indo-Iranian/Greek/Armenian (Porzig 1954:155-64). We cannot of course answer the question why **k^we-* and **yo-* came to be used as relative markers any more than we account for such phonological sequences as **k^we* for "and", **b^her-* for "bear", and **sūs-* for "pig". As indicated above, such questions can be answered only if we know the contemporary language in its social situation, as we happen to have adequate information for American English *burger*; OK, on the other hand, though scarcely a century old, has not been completely explained, in spite of the ingenious studies of Allen Walker Read. What we can do for PIE, however, is to look for data on the selection of **yo-* in those dialects that generalized it. The data we find and note below also indicate the time of development of **yo-* as a relative marker.

The data are found in the inflection of *o*-stems. As indicated in the handbooks, these form their genitive singular differently in the different sets of early dialects, furnishing in this way one of the difficult morphological problems for PIE (cf. for example Brugmann 1904:302). The three dialects using **yo-* as relative marker have the genitive singular ending: **-osyo*. This remarkable correlation enables us to reconstruct a portion of the stages of late Proto-Indo-European and some of its dialects.

The remaining dialects show no correlation between their relative marker and the genitive singular of *o*-stems. Latin and Celtic, with Venetic and Messapic, have the genitive singular ending *-z̄*. Like Hittite and Tocharian, Italic uses a relative marker having the same root as the interrogative marker. While we are concerned here with the situation in Indo-Iranian, Greek and Armenian, we may review briefly the relative markers in the other dialects, in answer to Jeffers' question. Those based on interrogative markers are readily accounted for; interrogative markers are widely used as a source for relative pronouns. The interrogative gave rise to relative pronouns at several stages in English, as may be noted from the following examples:

- (2) a. *The man who came to dinner...* (long-established)
 b. *Everything what he has told you is true.* (recent; colloquial)
 c. *What he has told you is true.*
 d. *What has he told you?*

The choice of **^{kw}e-* then needs no explanation; it might be called a "natural" solution, to use an adjective popular in current linguistics. Albanian and Armenian, whose forms will not be discussed here, made the same choice, as did other Indo-European dialects (cf. Brugmann 1904:402).

Irish and Welsh, as VSO languages, do not need relative markers. They include indicators of relative clause relationships, such as leni-

tion and nasalization (Thurneysen 1946:312-22). The source of these is unknown; attempts at explanation need reexamination, for they have been guided by earlier views on the presence of relative pronouns in Proto-Indo-European (Thurneysen 1946:322-5; cf. however Porzig 1954:191). On the basis of our current understanding of relative clauses in Proto-Indo-European, and in languages of specific types, the Celtic situation demands reinvestigation, especially if insights can be derived from the recently discovered Gaulish inscriptions (cf. for example Schmidt 1976).

Germanic, which lacks the **-osyo* ending (its genitive is reconstructed **-e/oso*), uses relative pronouns based on demonstratives and interrogatives. Porzig (1954:91) represents the common view in stating that it developed relative markers only when it was a separate branch (*einzel Sprachlich*), a remark he applies also to Celtic. The remaining dialects also provide no correlation between the genitive singular of *o*-stems and the relative marker. Hittite has *-aš*, which Porzig relates to PIE **-os*, as in the consonant stems. Porzig notes that only Baltic and Slavic have no special genitive forms in the *o*-stems. This he calls the original situation. Starting from this "original situation" we can account for the *o*-stem ending, focussing especially on that in Indo-Iranian, Greek and Armenian.

The various forms of the genitive singular of *o*-stems make it clear that this form is late. The "original situation" is found in the other stems, such as the consonantal stem **sntēs/ōs* in contrast with the nominative **sēnts/sōnts* (Brugmann 1904:376, 380-1, and chart after 622). In a study of the Indo-European nominal inflection, I equated these two forms for an early stage of Proto-Indo-European, following demonstrations of van Wijk on their equivalence (Lehmann 1958:192; see now also Fairbanks and Shields). I also accounted for the difference in vocalism, relating this to accentual variation at the time. The assumption of such a "syntactic marking" of genitive relationship receives additional support from our subsequent understanding of Proto-Indo-European as an OV-language. Its genitive relationship then might well have been expressed by simple preposing of the

genitive as in Turkish.

The accentual variation which served to distinguish forms, such as bahuvrihi compounds, was not available for *o*-stems. It is a characteristic of the thematic inflection that the accent cannot be moved, as it is in consonant stems. Accordingly, when the thematic declension developed, its "original genitive" formation would have been a homophone of the nominative, lacking the accentual variation of formations like the consonant stems. The lack of formal contrast between these two frequent cases would have given rise to great ambiguity. Accordingly a distinctive genitive form (or nominative) had to be created. The several sets of dialect groupings of the time produced such distinctive forms, as noted above.

When a distinctive marker was sought for the genitive, **-yo* was a likely candidate. It was already in use to indicate relationship between nominal elements, as in the adjectives discussed above; in these too however it was late (Brugmann 1906:183; see also 198-9). Baltic and Slavic selected it to mark the definite adjective declension. Significantly, Slavic also uses **yo-* in a compound relative, e.g., OCS. *i-že*. The choice then was syntactically motivated, not simply morphologically, in view of the syntactic relationship between relative constructions, genitives and adjectives (Lehmann 1978:17). While morphologically the definite adjective ending built on **-yo* has long been identified with the relative marker (Brugmann 1906:198), I set forth the syntactic motivation for it in 1970.

Since the relative construction is the basic nominal modifying construction, a marker functioning to indicate relative patterns might well be taken over for the genitive. This then was the source for the distinctive genitive singular ending of *o*-stems in those dialects which had selected **yo-* to mark relative clauses. We note further that the "full form" of the adjectival marker: **-eyo-/-eyā* is found only in Indo-Iranian, Greek and Italic.

These correlations also illuminate the origin of particle-marked relative clauses in the Indo-European dialects, and provide insights

into the time of formation of the **-syo* genitive as well as the **yo-* relative clause. For the *o*-stems are late, developing at the time of the dissemination of the Indo-European community (see for example Specht 1947:103-7). The thematic inflection, which vastly simplified Indo-European inflection, indeed became central to all dialects. But its variety of endings among the dialects indicates its late formation. The genitive singular **-syo* ending further indicates that **yo-* was a post-Indo-European relative marker, used only in those dialects which have maintained it, not in Proto-Indo-European. Indo-Europeanists must abandon the assumption of a **yo-* relative pronoun in the parent language.

The Indo-European treatment of resonants discussed earlier to clarify Meillet's problem, provides support from the phonological component of Indo-European grammar for late formation. For the adjectival suffix **-yo-* was added only to the frozen form of stems ending in *u/w*, *ṛ/ṛ*, *ṇ/n*. We find only forms of the pattern: **diw-yo-*, never **dyu-yo-*; cf. Skt. *divyās* "heavenly" (Brugmann 1906:183). These adjectives then were formed at a time when the Sievers-Edgerton Law was no longer productive. They do not, therefore, exhibit the alternating patterns that are found in many other forms, such as the verbs with **-eyo-* suffix, as in the Germanic first weak conjugation.

This discussion of a few small problems in Indo-European grammar, presented in memory of a scholar who delighted in such observations, illustrates in part the fullness of earlier reconstructions of Proto-Indo-European, in part minor modifications that must be made in these. The patterns noted show how the early OV structure of Proto-Indo-European is reflected even in minor segments of the language. The recognition of OV structure does nothing to destroy the compilations of data handed down from the past. But it does require elimination of unfounded inferences, such as that Proto-Indo-European had a relative pronoun **yo-*. It also opens the way to an understanding of formations like the **-syo* genitives of *o*-stems, and their time of origin.

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ADDENDUM

After writing this article, I noted that Gernot Schmidt had recognized that *-osyo* occurs only in *o*-stems of Indo-Iranian, etc., and that he suggested that in these languages the gen. sg. of IE demon. pron. in *e/o* added IE **yo-* to a genitive in *-s*. His proposal differs from mine, as does the thrust of his article. Cf. *IF* 82.61-74 (1977).

ETYMOLOGICAL OBSERVATIONS ON
BRAMBLING, BUNTING, FIELDFARE, GODWIT, WREN

W. B. LOCKWOOD
University of Reading

BRAMBLING

This name does not figure in the etymological dictionaries proper, but the *OED* reminds us that its origin has not been fully elucidated in spite of the apparent association with *bramble* and the German bird name *Brämbling* (Grimm, *Deutsches Wörterbuch*). Attestation is late: 1570 *bramlin*, 1655 *bramblings*, 1674 *brambling* (*OED*).

We understand the *OED*'s hesitation. There is, above all, the question of motivation, for the brambling, a winter visitor to the British Isles, can hardly have anything to do with brambles, i.e., blackberries. On the other hand, the older sense of bramble as "bramble bush" or perhaps better "prickly shrub (in general)" is quite apposite, for the species in question roosts in coverts and shrubberies. In this connection, we notice two dialect names for the brambling: *furze chirper* and *furze chucker* (Swainson 1885:64), the latter unmistakably inspired by the bird's characteristic flight-note *chucc*, *chucc*, *chucc* (Witherby 1938/I:107); here *furze* is to all intents and purposes the semantic equivalent of *bramble*.

Looking at things formally, we normalize the first attestation *bramlin* as *brambling*, agreeing with the *OED* that the name consists of *bramble* plus *-ling* -- not *-ing*, comparable names of other birds being local *groundling* (*EDD*), *reedling*, *sandling* (*OED*) -- while *bramble* it-

self continues ME *brambel*, OE *bræmbel*, the later form of *brāmel*, i.e., with epenthetic *b* and consequent vowel shortening before two consonants. Our word is thus not ancient, as the absence of umlaut further indicates. At any rate, it is unrelated to Germ. *Brämling* in any generic sense. The German name, moreover, denotes some other species, and Grimm seems to be hinting at a different origin altogether: "BRÄMLING emberiza, eine art goldammern, deren federn gelb gebrämt sind".

BUNTING¹

Bunting is still marked as an item of obscure provenance, thus Onions: "Of unkn. origin, perhaps f. a base meaning 'short and thick', *buntin(g)* being used in this sense since c. 1600. (The recorded synonyms *buntyle*, *bunkin*, *buntlin* are of doubtful authenticity.)" This tentative derivation comes from Skeat: "As the bird has 'a clumsy figure' (Newton) we may compare Lowl. Sc. *buntin* short and thick, plump, prov. E. *bunty*, short and stout." It will not be difficult to show that the bird name is indeed to be associated with the words mentioned.

Skeat noted that Newton referred to the (corn) bunting as having "a clumsy figure". Witherby (1938/I:110) describes the bird as follows: "Dull brown, streaked plumage lacks outstanding features, but size (between Sparrow and Thrush) and robust form with rather heavy head and bill...distinguish it from any other similarly coloured bird." The bunting's "clumsy figure" is thus seen to be a significant identifying feature and, as such, will be not unlikely to lead to the bestowal of a name. Of this we soon find confirmation, noticing first the picturesque synonym *corn dumpling* from N. Ireland (Braidwood 1965:107). The Celtic languages provide further examples, as Manx *ushag* (or *kione*) *rouayr ny hoarn* lit. "fat bird (or head) of the barley" (Ralfe 1905:75) or Welsh

¹I am greatly obliged to J. Simpson for important references in connection with this name.

bras yr ŷd lit. "fat (bird) of the corn", first a1592 (Thomas 1950-: 309); from abroad we observe Low Germ. *Krust* lit. "kleine, dicke Person" (Suolahti 1909:107).

We next refer to the variant *buntlin* (above). This (Scots) form is, however, genuine, i.e., with substitution of common *-lin(g)* for *-in(g)*, see now *SND*.

The bird name *bunting* is first recorded c. 1300, but the word occurs a little earlier (1275) as a surname (*MED*). Given the literal meaning "plump creature or person", it seems most unlikely that the surname is secondary, as in *Jay*, *Nightingale*, etc. But clearly our word was in existence by the 13th century, i.e., much earlier than implied by Onions.

In early texts, *bunting* refers exclusively to the *corn bunting* (*Emberiza calandra*), a term apparently not recorded until Montagu (1831: 62), where it is described as a provincialism. By the second half of that century, however, it had fairly established itself as the standard term. Previously, *common bunting* had been used by the naturalists; it is first noticed by Montagu (1802:C3), the simplex *bunting* having been widened in the late 18th century to render Linnaeus' generic *Emberiza*. In this way, the now standard *reed b.* (1795) arose in place of the old name *reed sparrow* (*rede-sparowe*, 15c.), similarly *cirl b.* (1783) imitating *E. cirlus*, the genuine folk name being (Devon) *French* (i.e., "foreign") *yellow hammer*, further *snow b.* (1771) formerly *E. nivalis*, contrasting with popular (Scots) *snow bird* or *snow flake*. Exceptionally, the naturalists' *yellow b.* (1776) has not been adopted in the standard terminology, traditional *yellow hammer* (OE *amore*, etc.) prevailing.

FIELDFARE

As far as we can judge, a definitive etymology for this name is still outstanding. True, the *MED* sees no problem. However, it sets out full details of Middle English occurrences, and we select from the earliest: "?a1300 *StJ. List Trees* 155: Griue: *ffeldefare*; a1325

Gloss. Bibbesw. 32: La grive: *the feldefare*; c1380 Chaucer *PF* 364... *frosty feldefare*; 1389 *Mem. Bk. York*...xij *feldifares*; c1430 *In May whan euery* p. 108...*frosty feldefare*", whereupon follows the etymological explanation: "Remodeled form of OE *felde-ware* 'field dweller'". We will note that the Old English form is known solely from a single gloss, c. 1100: *Wr-Wülcker* 287 *Scorellus*, *clodhamer* and *feldeware* (*OED*). As regards origins, however, the *OED* is less confident: "Of obscure formation; app. it (i.e., *feldfare*) means 'field goer'...; but the presence of the middle syllable is not accounted for, and this, with the divergent spelling in the OE gloss, suggests possibility of corruption from popular etymology". We next note that the Old English word has been treated by Campbell (1959:153), who emends ms. *feldeware* to **feldefare*, and accounts for the troublesome middle vowel by characterizing the form as a genitival compound.

We, for our part, are reluctant to accept either "field goer" or "field dweller" as plausible interpretations, since the concepts "goer" and "dweller" are alien to popular ornithological nomenclature, see further below. One will accept that the word as we have it could appear to contain OE *feld* "field", but we hesitate to go along with Campbell, seeing that all comparable compounds have invariable *feld-*, as *feldebēo* "humble-bee", etc., including indeed **feldware* "dwellers in open country", deduced from place names (Toller-Campbell 1972:24).

It will be pertinent to enquire: which form is likely to be primary, the hap. leg. OE *feldeware* or ME *feldefare*? The former is attested some two centuries before the latter. On the other hand, all subsequent forms, including those in dialect (Swainson 1885:5), go back to *-fare*, so that OE *-ware* -- a suffix, incidentally, otherwise known only in the plural -- seems strangely isolated. In these circumstances, the etymologist may well accept **feldefare* as a working hypothesis. However, we have already objected to "field goer" for onomastic reasons; we also query its validity on morphological grounds, as follows. The sense "field goer" implies OE **feldgefara* which seems too far removed from **feldefare* to permit any tolerably secure identification. It is our

contention that from all this only one safe deduction can be made: OE *feldeware* (if genuine and not a scribal error) and ME *feldefare* are corrupt and bear unmistakably the marks of folk-etymological reconstruction. The real task is to find out what lies behind appearances.

One may form some idea of the likely nature of the lost original by considering the names given to the fieldfare in English dialect or in the other languages in our area. These seem to fall into recognizable semantic categories. In the first place, the bird may take its name from its feeding habits, as Germ. *Wacholderdrossel* lit. "juniper thrush", a name type common abroad, though not apparently found in Britain. Secondly, the bird may be known after its coloring. English examples include *blue back* and *grey thrush* (these, and other items below, from Swainson 1885:5); among foreign names, suffice it to notice WFrís. *feale lyster* lit. "fallow thrush" (Buwalda 1956:260).

The fieldfare is a noisy species, and also gregarious, so that not surprisingly the voice may figure in a name. The most prominent call is a harsh *cha-cha-cha-chack* (Witherby 1938/II:108), hence *screech bird*, and numerous onomatopoeic formations, as Walloon *chac-chac*. This sound English converts into *Jack bird*, while Danish forms an agent noun *sjagger*. The Welsh have evidently reproduced the call as *sog*, *soe*, naming the bird *sogiar* (*iâr* "hen") or *sogen*, *socen*, variant *socan* (these and subsequent names from Parry 1962:14f). Now the syllable *sog*, *soe* is, in Welsh, used as a call to pigs, hence local *socan* "pig", so that here bird and animal go under the same name. At this point we notice WFrís. *fjildbok* lit. "field billy-goat" (Buwalda 1956:95) and refer back to the two meanings of Welsh *socan*. We recall, too, that other birds have occasionally taken animal names on the basis of fancied vocal affinity. Thus Sc. Gael. *capull coille* (> Eng. *capercaillie*) lit. "forest horse" and Norw. *havhest* "fulmar" lit. "ocean horse" were alike motivated by the neighing sounds which form part of the repertoire of these species; Faroese *gneggjus* "common gull" is transparently "neigher".

As a winter visitor to Britain, the fieldfare may acquire names reflecting this status, e.g., local *snow bird*, cf. also ME *frosty feldefare*, the epithet being, we suggest, a more or less integral part of the name and the earliest example of a formation which remained productive in bird names, as in the much maligned *stormy petrel*. The habitat may also appear in the name, as in (Scots) *hill bird* -- we have already noticed WFrisk. *fjildbok* -- both appropriate terms, seeing that the bird winters in open country. And lastly, as the Frisian term just mentioned illustrates, a name can combine two of these various concepts. There are several instances of this type in Welsh, including *socen lwyd* "grey *socen*" or *socan eira* "snow *socan*", further *caseg y ddrycin* "stormy-weather mare".

It is to be expected that the antecedent of *fieldfare* will have been composed of semantic elements occurring in the typical examples of fieldfare nomenclature adduced above. Since the name is present in English only, it will most probably have arisen in this country, being then of no great age, relatively speaking, and made up of words almost certainly attested in the copious records of Old English. We have good reason to believe that ME *feldefare* represents the tradition best, and we divide *felde-fare*. The first element, with its problematic two syllables, can be accounted for by assuming OE *fealu* (> *fallow*) "grey" to have been the underlying word, later contaminated by *feld* "field", both acceptable concepts, witness WFrisk. *feale lyster*, *fjildbok*. This being so, the second element could well have been OE *fearh* (> *farrow*) "piglet", cf. especially Welsh *socan*. We therefore postulate OE **fealu fearh* lit. "grey piglet" as a possible ultimate source and compare it with Welsh *socen lwyd*.

GODWIT

Two British species go under the name of *godwit*, the black-tailed (*Limosa*²) and the bar-tailed (*L. lapponica*), today occurring chiefly as

passage migrants or winter visitors. The latter appears never to have nested in Britain, but the former was still breeding here in large numbers, notably in the Fen District, until the beginning of the last century. It is therefore quite likely that the term *godwit* arose as a name for *Limosa*². We note, however, that the two species are closely related, not differing much in outward appearance, and even less so in voice, so that one expects such birds to go under a single popular name. Attestation is relatively late: *godwittam* (latinized) 1544, *godwitte* 1552, *godwit* 1591 (*OED*).

Our authorities have been puzzled by the word, and Onions is quite agnostic: "Of unkn. origin; the occas. vars. in *-wipe*, *-wike* do not suggest a solution." Earlier etymologists, however, did make tentative suggestions. Since the bird was once an esteemed delicacy, Skeat considered that "the former syllable may well be a shortened form of *gōd*, 'good'," and continues: "The latter syllable *-wit* probably stands for ME. *wight*, AS. *wiht*, 'a wight, a creature', which could be used (in AS.) as a bird...Variously corrupted to *god-wike* in 1612...*godwipe* (1579)." Weekley, for his part, wondered if the name had been motivated by the cry, comparing *pewit*, but added: "cf. synon....Dan. *röd-vitte*, from *röd* 'red', with second element as in *musvit*, 'titmouse'. This is perhaps archaic Dan. *vitte*, 'small thing', used like E. *tit*." Needless to say, Weekley is here following Falk-Torp (1911:933).

We don't think there can be anything in Skeat's conjecture, since a term meaning "good creature" or the like seems to be without parallel among bird names. Weekley and Falk-Torp, on the other hand, invoke elements known to be involved in the formation of such names. All the same, we propose to disregard the comparison with Dan. *musvit*, since the older Dan. *vitte*, while applicable to a titmouse, is out of place as a term for a bird the size of a godwit. But the onomatopoeic interpretation has everything to recommend it, comparison with *pewit* being most appropriate, certain of the godwit's calls being very reminiscent of that bird's cry.

It will indeed be not at all surprising should the present word turn out to have been inspired by onomatopoeia, seeing that godwits are such clamorous subjects. They have, moreover, a complex vocal range (Witherby 1940/IV:161f), as the local names *shrieker* and *barker* (Newton 1896:366) picturesquely illustrate. It is now easy to recognize (original) onomatopoeia in similarly local *yarwhelp* and *yarwhip* (Swainson 1885:198). At the same time, it becomes clear that the second syllables in *godwike*, *godwipe* (above), are of the same echoic stuff and that these forms are, to that extent, as one with *godwit* itself, an interchange of plosive consonants being commonplace in imitative bird names, cf. such local pewit names as *teeweeet*, *teeweeep*, *pee-weep* (whence *piewipe* comparable to *godwipe* above) with Dutch *kiewit* beside local *piewit*, Low German also *tiewit*, *tiewik*, *piewik*, *kiewik*, (EDD, Knuttel, WdNt, Grimm, DW "Kibitz").

Since the second syllable of *godwit* is basically echoic, it is probable that the same will hold true for the first syllable, as is undoubtedly the case with *yarwhelp*, *-whip* above. The probability increases when we learn that the Dutch call the bird *grutto*, but for a really close parallel, we need to go beyond Germanic, indeed to a non-Indo-European language, to synonymous Hungarian *goda*. It goes without saying that onomatopoeic formations have scant regard for the genetic affinities of the languages in which they appear.

Although *godwit* is fundamentally echoic in origin, the name as we have it is nevertheless "meaningful", hence the Latinization *Dei ingenium* from 1611 reported by Newton (1896:366). It will therefore be correct to recognize the distinct possibility of folk-etymological interference, as already evident in *yarwhelp*, *-whip*. Since *godwit* is fundamentally echoic, it seems incautious to characterize *godwike*, *-wipe* (above) as corruptions; they can equally well be collateral formations, only fortuitously attested a little later than *godwit*. Indeed, the form *godwipe* seems particularly noteworthy, since *wipe* is a local name for the *pewit* going back to synonymous ON *vīpa* (EDD).

WREN

The affinities of this, the traditional Germanic name for *Troglodytes*, have puzzled the etymologists, so that all Onions felt able to say was: "OE *wrenna*, with var. *wrænna* (surviving in dial. *wran*), obscurely cogn. with synon. OHG *wrendo*, *wrendilo*, Icel. *rindill*." Kluge-Lutz (1899:231) had added that the term was probably further related to OLG, OHG (*w*)*renno*, attested earlier in Med. Lat. *warannio*, "stallion", but without giving a reason. This suggestion Suolahti (1909:80) regarded sceptically in view of a possible morphological problem, to say nothing of the semantic difficulty. We shall have to look into all these matters.

The Old English forms of our word are definitively treated by Campbell (1959:75, 190); they are *wrenna*, with metathesis *wærna* from **wærnna*, by contamination *wrænna*, *werna*, forms presupposing WGmc **wrannjan*. The related West Germanic counterpart, sparsely attested in glosses on the Continent, is OLG, OHG *wrendo*, implying WGmc **wrandjan*. This will be older than the prototype of the Old English forms, now seen to have suffered secondary loss of *d*, as Suolahti (1909:80) duly notes. The Continental glosses further record the diminutive OLG, OHG *wrendilo*, OHG also (*w*)*rentilo*, if traditional from WGmc **wrandiljan*. In Norse, the name occurs solely as the diminutive *rindill*, to all appearances reflecting NGmc **wrendilaz* (De Vries 1961:446), a variant of the base postulated for West Germanic.

ON *rindill*, recorded as a sobriquet, e.g., *Bergr r.*, has been held to mean *Motacilla fusca* "grey wagtail" (Fritzner 1896:114). In Modern Icelandic, however, this word denotes the wren, likewise the compound *músarrindill* -- *mús* "mouse" in allusion to the mouse-like creeping of the wren, as in synonymous *músarbróðir* lit. "mouse's brother". The term is further contained in ON *rindilpvari*, a bird name found solely in a rímarole and hence its precise signification is unknown (Fritzner 1896:114). We would add that the use of this word in Icelandic by Guðmundsson (1968:55) to denote the little bittern has no direct connec-

tion with our problem. It is a neologism, introduced by the naturalist himself who, as A. Petersen kindly informs us, chose *þvari*, a word for various long and thin objects (Blöndal 1920:991), as the generic term for bittern in reference to the bird's appearance when alarmed -- one may compare the German ornithologists' expression *P f a h l s t e l l u n g*.

We now observe that Icel. *rindill* has, in certain localities, other quite different meanings: (1) table spoon, (2) gimlet (Blöndal 1920:652), further (3) thin person (Jóhannesson 1956:65f), cf. *rindil-slegur* "thin". It does not seem difficult to account for these meanings, disparate though they may seem at first sight. Assuming a basic sense "stick" or the like, we can easily explain "spoon" -- such would originally be made of wood, and cf. the etymology of *spoon* itself: OE *spōn* "sliver, chip" and with similar meanings OHG *spān*, ON *spánn*, *spónn* also "spoon", ultimately cognate with Gk. *σφήν* "wedge". The next sense "gimlet" will be a further derivation after the analogy of the numerous tool names in *-ill*, as *meitill* "chisel", *sniðill* "pruning knife". Lastly, a figurative sense "thin person" can follow naturally from a primary sense "stick".

It is not yet clear, of course, whether *rindill* "spoon, etc." is etymologically identical with the bird name. We therefore next turn to the subject itself to discover features likely to lead to name giving. At once we notice the perky cocked-up tail, unique among our birds, and find it reflected in a name like dialect *cut lit*. "bob tail" (Swainson 1885:35), a pars-pro-toto designation, as with *shag*, and hence the well-known *cutty wren*. It is now possible to identify in ON *rindill* a further name for "tail", involving as it does only a slight semantic shift from the basic sense "stick" postulated above. Accordingly, WGmc **wrann-jan*, older **wrandjan*, can be interpreted as "the bird with the bob tail", i.e., as a *jan*-stem to a base **wrand-* "stick, tail". In Norse, however, where *jan*-stems are rare (Kluge 1926:8), *rindill* presupposing NGmc **wrendilaz* has been formed direct from the variant base **wrend-*; in other words, the Norse form means literally "little tail", again a pars-pro-toto name.

Looking back to ON *rindill*, thought to have meant "(grey) wagtail", we note that if this conjecture is correct, then the word will have retained its literal meaning "tail" longer than in West Germanic. And what of *rindilþvari*? The name could be tautological. Its exact sense eludes us still, but perhaps we are now entitled to think in terms of a small bird with a long, thin tail, presumably a wagtail or the long-tailed tit.

We next refer back to OLG, OHG (*w*)*renno* (cf. Med. Lat. *warannio*) "stallion", a word Kluge-Lutz have assumed to derive, like OE *wrenna*, etc. from WGmc **wrannjan*. To this Suolahti (*loc. cit.*) replied that the stallion name appeared to presuppose older **wrainio* (cf. Palander 1899:87f, where the rather motley ms. forms are cited in full); for this we may then postulate WGmc **wrainjan*. There can be no doubt about the validity of such a form: it is implied by MDutch *wrene*, OLG *wrēnio*, vowel length being confirmed by OHG *reinneo*, *rein(n)o*, further by OWN *reini*, OSwed. *vrēn*. The term is a substantivized weak adjective, for the basic sense, cf. OE *wrēne* "lustful". We hasten to add, too, that Kluge-Lutz' (*w*)*renno* is their own normalization, evidently inspired by a conjecture in Braune, *Ahd. Gr.*, §106 a. 1, cf. Palander above.

It has sometimes been held, e.g., by Hellquist (1922:1145), that there were in fact two originally distinct terms for stallion, i.e., **wrannjan* and **wrainjan* postulated above, which inevitably influenced each other, hence the medley of ms. forms in German. In this connection, Lat. *warannio* has, of course, been seen as confirmatory evidence for **wrannjan*. The Latin occurs in the Lex Salica and will reflect a 5th-century Franconian original. On the other hand, it is manifestly dangerous to read so much into the form *warannio*, since *waranio* also exists, besides numerous other variants (see Hessels 1897-8:464).

It would seem a priori extremely unlikely that East Germanic -- or any other language -- could evolve and employ two terms, phonetically so close to each other, to denote one and the same animal. There can have been only one word here, as Suolahti-Palander thought, and it will have been **wrainjan*, the only postulate unequivocally attested in

the descendent languages, so that deviating ms. forms must be corrupt one way or another. It only remains to be said that *waranio* will be the best Latin form and represent contemporary Franconian **wrainio*, Gmc *ai* being regularly equated with Lat. *a* (Pope 1934:228). This conclusion will be of interest to Romance philologists, too, since Ital. *guaragno*, Span. *garaanón*, etc., "stallion" are recognized as borrowings from Germanic.

It now goes without saying that the stallion name has nothing to do with the bird name *wren*.

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NOCH EINMAL HETHITISCH *heu-* "REGEN"

ERICH NEU
Ruhr-Universität Bochum

0.0. Das hethitische (hethit.) Wort für "Regen" (*heu-* c.)¹ wurde zuletzt ausführlicher von J. Tischler² behandelt, der für seine eigene Beurteilung hinsichtlich der Gestalt des Paradigmas von *heu-* auch die Stellungnahmen von H. Kronasser³, A. Kammenhuber⁴, J. J. S. Weitenberg⁵ und Vl. Georgiev⁶ berücksichtigt hat. Der Artikel von J. Tischler läßt aber erkennen, daß trotz der vielen vorgebrachten Ansichten in der Ansetzung des hethit. Paradigmas letztlich Unklarheit oder zumindest Unsicherheit besteht. Es hat wenig Sinn, nach einem grundsprachlichen (indogermanischen) Paradigma zu suchen, solange die innerhethit. Gegebenheiten noch immer nicht den Fakten entsprechend geklärt sind. Trotz der nicht gerade günstigen Überlieferungslage des hethit. "Regen"-Wortes geben die bezeugten Formen doch mehr Auskunft über den Aufbau des Paradigmas von *heu-*, als es in den bisherigen diesbezüglichen Stellungnahmen den Anschein hat. Einige Fragen bleiben dennoch offen. Die vor-

¹Über "Regen" in den hethit. Texten s. A. Ünal, *Belleten* XLI/163, 1977, 427f. bzw. 451f. Zu den "Regen"-Wörtern in den indogermanischen Sprachen s. C. D. Buck, *A Dictionary of Selected Synonyms in the Principal Indo-European Languages*, 1949, 67f.

²*Hethitisches etymologisches Glossar*, Lfg. 2, 1978, 238-40.

³*Vergleichende Laut- und Formenlehre des Hethitischen (VLFL)*, 1956, 115; *Etymologie der hethitischen Sprache (EHS)*, 1966, 78 (!).

⁴*Handbuch der Orientalistik*, I. Abt., II. Bd., 1./2. Abschn., Lfg. 2, 1969, 281.

⁵*Hethitica* 1, 1972, 33-6.

⁶*RHA* 30, 1972(1974), 91-3.

liegende kleine Studie, die den Arbeiten der genannten Autoren verpflichtet ist, greift noch einmal das Problem der Stammbildung und Flexion von hethit. *heu-* auf und versucht ein bestimmtes Paradigma bzw. Teilparadigma als ursprünglich zu erweisen.

1.1. Bekanntlich sind Kasusformen von *heu-* mit und ohne Stammbablaut (-u bzw. -au-) bezeugt.⁷ Ausgangspunkt und Grundlage für das Paradigma sollten die althethit. Textbelege des Wortes *heu-* sein. Im Althethit. sind bisher nur Formen des Akkus. Sg. sowie des Nom. Pl. bezeugt: *hé-e-un* (Akkus. Sg.) *ABOT* 5 II 12' (= *StBoT* 25 Nr. 12 II 33'), *hé-e-a-u-e-eš* (Nom. Pl.) *KUB* XXIX 3 (= *StBoT* 25 Nr. 1) I 8'. Diese zuletzt genannte Pluralform ist insofern aufschlußreich, als in einer jungen Niederschrift dieses Textes (vgl. *CTH* 414 A/B) die Graphie *hé-e-ia-u-e-eš* begegnet (*KUB* XXIX 1 I 27), die die Vermutung nahelegt, daß es sich bei dem zusätzlichen -i- um einen Gleitlaut⁸ und nicht um eine etymologische (phonematische) Größe handelt.⁹ Aber auch im (späteren) Althethitischen findet sich dieser Gleiter, wie der Beleg *hé-e-ia-u-e-ša* (mit enklit. -a) zeigt (*StBoT* 25 Nr. 137 II 12). Der sporadisch in den Belegen von *heu-* auftretende Gleitlaut ist aussprachebedingt und kann bei der Rekonstruktion wie auch schon bei der Ansetzung des ursprünglichen hethit. Paradigmas unberücksichtigt bleiben. Die althethit. Belege *heun/heaueš* erweisen den Stammbablaut als alt¹⁰ und damit hethit. *heu-* als u-Stamm.¹¹ Der Umstand, daß der Stammbablaut bei *heu-* bereits

⁷Vgl. die Aufstellung bei H. Kronasser, *VLFL* 115, und J. J. S. Weitenberg, a.a.O. 33f.

⁸Vgl. A. Kammenhuber, a.a.O.

⁹Vgl. *hé-e-ia-u-e-eš* *KUB* XXXIV 14 + 1429/c r. Kol. 6', 10' (*CTH* 534 II a 4), zwar junge Niederschrift, doch dürfte, wie auch sprachliche und "ortho"graphische Kriterien es nahelegen, der Zeitpunkt der Übersetzung aus dem Akkadischen früher liegen.

¹⁰Anders hingegen J. J. S. Weitenberg (a.a.O. 36), der den Ablaut in diesem Stamm als optisches Trugbild ansieht.

¹¹Vgl. H. Kronasser, *VLFL* 115, aber auch *EHS* 562 sowie die Diskussion bei J. J. S. Weitenberg (a.a.O. 34) bezüglich der Annahme eines a-Stammes.

im Althethitischen begegnet und daß zum Junghethitischen hin (s. unten) im Stammauslaut zugunsten von schwundstufigem *-u-* ausgeglichen wird, läßt die Aussage J. Friedrichs (*HE* I³ § 73b), wonach es sich bei den "Formen mit *-(i)a-* vor dem Themavokal" um "Analogiebildungen nach den Adjektiven" des Typus *idalu-/idalau-*, *aššu/aššau-* handeln soll, wohl kaum noch aufrecht erhalten. Vielmehr werden wir mit H. Kronasser (*VLFL* 115), A. Kammenhuber (a.a.O.), Vl. Georgiev (a.a.O. 92) und J. Tischler (a.a.O. 239) die vollstufigen Stammformen auf *-au-* im Wechsel mit schwundstufigen auf *-u-* für ursprünglich zu halten haben, so daß *heu-* sehr wohl als verlässlicher Zeuge für quantitativen Ablaut auch bei den substantivischen *u*-Stämmen dienen kann.¹²

1.2. Für *heu-* ist demnach im Stammvokalismus das gleiche Ablautverhältnis vorauszusetzen wie für die Adjektive des Typus *idalu-* oder *aššu-*, aber ohne daß derartige Adjektive das Modell abgegeben hätten (2.1). Während aber diese *u*-stämmigen Adjektive die Stammabstufung *-u-/au-* bis ins Junghethitische hinein beibehalten haben,¹³ wird im Laufe der hethit. Sprachgeschichte für das Substantiv *heu-* die pluralische Nominativform *heueš* die Regel (vgl. *hé-e-u-e-eš* *KUB* VIII 1 III8; *XLI* 33 Vs. II 17').

Im Akkus. Pl. haben wir *heamuš* zu erwarten (vgl. *idalamuš*, *aššamuš*),¹⁴ und tatsächlich ist auch *he-e-a-mu-uš* bezeugt (*KUB* XXXIII 9 III 10').¹⁵ Wiederum Gleitlaut liegt vor in *hé-ia-mu-uš* 76/g Vs. 9.¹⁶ Schwundstufig ist hingegen die Form *hé-mu-uš* (Akkus. Pl.; *Bo* 1078 Vs. II 14'),¹⁷ zu der die eben erwähnte Nominativform (Pl.) *heueš* die para-

¹²Vgl. *uappamuš* (Akkus. Pl.) zu *uappu-* "Flussufer" *KUB* XXXIII 10 I 11 (J. J. S. Weitenberg, a.a.O. 36); althethit. *še-e-ek-na-u-i(-iš-mi)* *KBo* XVII 36 Rs. IV 5'; (Dat.-Lok.) zu *šeknu-* (J. Friedrich, *HW* 189f).

¹³Es wird also nicht ein Nom. Pl. **idalueš* oder **aššueš* gebildet.

¹⁴Zum Übergang *-uu-* → *-mu-* s. Verf. *StBoT* 18, 1974, 121f.

¹⁵Im Duplikat 1188/c, 10' ist noch *-]e-a-mu-uš* erhalten.

¹⁶Mondomen; Vgl. *KBo* VIII Inhaltsübersicht Nr. 47.

¹⁷Niederschrift des 13. Jh. v. Chr.; auch geschrieben *he-e-mu-ú-uš* 245/f, 7', wohl 14. Jh. v. Chr.

digmatische Entsprechung darstellt (Stamm *heu-* statt *heau-*). Und schließlich unterblieb im Akkus. Pl. gar der Übergang von *-u-* zu *-mu-* (vgl. Anm. 14), was zu Akkusativformen wie *hé-e-uš* (vgl. *KUB XXXVI* 89 Rs. 54')¹⁸ oder *hé-e-ú-uš* (vgl. *KUB XVI* 37 IV 6') geführt hat.¹⁹ Auf diese Weise wird die junge Akkusativbildung des Plurals (*heuš*) lautgleich mit dem Nom. Sg. *heuš* (vgl. Anm. 18), der stets ohne Gleitlaut geschrieben ist (vgl. *hé-e-u-uš KUB VII* 5+ I 17', *hé-e-ú-uš KUB XIX* 13+ IV 9' und *hé-u-uš KBo III* 7 II 22).²⁰

1.3. Nach dem bisher Gesagten ist auch für den Genitiv Sg. der Stamm-
ausgang *-au-* zu erwarten. Die entsprechende Form, jedoch mit Gleiter
-i-, findet sich als *hé-e-ia-u-ua-aš* in *KUB XXV* 23 IV 52' (*CTH* 525),
aber im Wechsel mit *hé-e-u-ua-aš* *ibid.* IV 47', beide Male in der Ver-
bindung "Wettergott des Regens". Weitere Graphien des Genitivs sind
hé-e-u-aš KBo X 31 II 12' und *hé-e-u-ua-aš Bo* 7247 r. Kol. 6'.

Der bisher einzige Beleg eines Instrumentals zeigt den Stammaus-
gang *-au-*: *hé-e-a-u-it* (ohne Gleiter) *KUB XXXIV* 16 III 4 (*CTH* 533).²¹

1.4. Die Beleglage gestattet folgende Kasusformen als ursprünglich
für das hethit. Paradigma von *heu-* zusammenzustellen:

Sg. Nom.	<i>heuš</i>	Pl. Nom.	<i>heauēš</i>
Akk.	<i>heun</i>	Akk.	<i>heamuš</i>

¹⁸Zur Datierung in die Zeit Hattušilis III. s. V. Haas, *Der Kult von Nerik*, 1970, 141. V. Haases Interpretation von *heuš* als Subjekt zu transitivem *tarnešdu* ist m.E. nicht haltbar, hingegen Subjekt zu intransitivem *uit* ist *heuš* *ibid.* 60'.

¹⁹Die Form *hé-e-u-uš* in *KBo XIII* 245 Rs. 7' steht wohl fehlerhaft für eine Dativform (vgl. A. Kammenhuber, *THeth* 7, 1976, 52/53). Oder sollte doch ein Akkus. Pl. gemeint sein?

²⁰Zum letzten Beleg vgl. G. R. Hart, in: A. Morpurgo-Davies/W. Meid (ed.), *Studies in Greek, Italic, and Indo-European Linguistics Offered to L. R. Palmer*, 1976, 94ff.

²¹Zur Syntax s. G. R. Hart, a.a.O. 93, 94.

Gen. **heayaš*²²Instr. *heayit*

Entstehungsgeschichtlich relativ junge Formen sind: *heueš* (Nom. Pl.), *hemuš/heuš* (Akkus. Pl.) sowie *heyaš* (Gen. Sg.). Insgesamt ist die Anlautschreibung *hé-e-* häufiger als *he-e-*, die Schreibung mit dem Keilschriftzeichen *HI/HI* berechtigt aber nicht zu einer phonetischen Interpretation [*hie-*], wird doch hier der Lautwert durch darauffolgendes *-e-* als [*he-*] festgelegt. Ob wir in *hé-e-* bzw. *he-e-* (nur gelegentlich *hé-*) mit der phonetisch-phonologischen Länge des Vokals *-e-* rechnen dürfen (vgl. *me-e-hur* "Zeit"; *mēhur*), läßt sich beim gegenwärtigen Stand unseres Wissens um Pleneschreibung schwerlich sicher entscheiden. Die Pluralendung in *hé-e-a-u-e-eš*, *hé-e-ia-u-e-eš* oder *hé-e-u-e-eš* möchte man trotz der Graphie *-e-eš* eher als /-es/ interpretieren (< idg. *-ēs).

2.0. Das hethit. Verbum für "regnen" zeigt beide Stammformen des zugrundeliegenden Substantivs *he(i)ay-* und *heya-*; vgl. *hé-e-ia-u-ya-né-eš-[-ki-it]* KUB XIX 13+ IV 13', [12'], *hé-e-u-ya-né-eš-ki[-i]t* KUB XIV 20+ I 12'. Hierbei dürfte es sich weniger um ein Problem der unterschiedlichen Bildungsweise handeln als vielmehr um unterschiedliche Entstehungszeiten, die selbst relativ aufgrund der ungünstigen Überlieferungslage des Verbums nicht bestimmt werden können. Bemerkenswert ist eine Textstelle in Bo 7247 (r. Kol.), wo neben dem Genitiv *hé-e-u-ya-aš* "des Regens" (*-ya-*) das Verbum als [*hé-*]*e-ia-u-ya-ni-x*²³ auftritt (Z. 6', 7'; mit *-ay-* und Gleitlaut).

Das hethit. Verbum für "regnen" kann schwerlich das Suffix *-annai-*

²²Bisher nur mit Gleiter *-i-* bezeugt: *heiayaš* (1.3.).

²³Von dem Zeichen vor der Bruchkante ist noch der vordere Teil von zwei übereinanderliegenden Waagerechten erhalten, was in Verbindung mit vorhergehendem *-ni-* am ehesten auf *-i[š-]* weist (ebenfalls *-šk-* Verbum). In KBo VIII 96 Vs. 11' wird man *hé-e-ia-u-ya-ni-iš-ki-iz-zi* lesen wollen. Vgl. *heiamuš* DÜ-zi "es regnet" (76/g Vs. 9).

(HE I³ § 137) enthalten, da sich bisher in seinen bezeugten Formen nur Einfachschreibung von *-n-* findet.²⁴ Möglicherweise darf in 685/z, 6' *ḫé-]e-ua-ni-ia-at* (Prt. Sg. 3.) ergänzt werden, dabei wäre jedoch das Fehlen des *-šk-*Suffixes auffallend. Hinsichtlich der Bildungsweise mit einem Nasalsuffix bietet sich ein Vergleich mit dem Witterungsverbum *ḫar(u)uanai-* "aufhellen, hellwerden, dämmern"²⁵ an. Versuchsweise wird das hethit. Verbum für "regnen" als *ḫe(i)auanai-/ḫeuanai-* bzw. *ḫe(i)a-uani-ia-/ḫeuania-* angesetzt. Morphologisch bleibt daran manches unklar.

Der einzige mit diesem Witterungsverbum vollständig erhaltene Satz ist syntaktisch nicht eindeutig: *nu GE₆-an ḫu-u-ma-an-da-an ḫé-e-u-ua-né-eš-ki[-i]t* KUB XIV 20+ I 12'. Heißt dies "es regnete die ganze Nacht"²⁶ oder "er (DU NIR.GÁL EN-IA, ibid. I 11') ließ die ganze Nacht regnen"? Von der syntaktischen Interpretation her wird schließlich auch die morphologische Analyse mitbestimmt sein.

Als nominale Ableitung von *ḫeu-/ḫeau-* wird gemeinhin das Nomen instrumenti ^{URUDU}*ḫeiaualit* (Instr. Sg.) angesehen, für das die Bedeutung "Regenrinne (?)" vorgeschlagen worden ist.²⁷

3.0. Nachdem die Deklinationsverhältnisse von hethit. *ḫeu-*, soweit es die Beleglage heute gestattet, geklärt sind, stellt sich nun die Frage nach der Etymologie des hethit. "Regen"-Wortes. Wie schon von J. Tischler vermerkt, würde man wegen des stammabstufenden Paradigmas indoger-

²⁴J. Friedrich (HW 69), Vl. Georgiev (a.a.O. 93) und J. J. S. Weitenberg (a.a.O. 24) notieren das Verbum jeweils mit doppeltem *-nn-*. J. Friedrich und J. J. S. Weitenberg sprechen sich ausdrücklich für das Suffix *-annai-* aus, was aber an der Graphie scheitert. H. Kronasser und im Anschluss daran J. Tischler (a.a.O. 240) schreiben korrekt einfaches *-n-* und erwägen ein *-na-*Kausativum ("regnen lassen").

²⁵Zuletzt behandelt von H. Eichner, *Die Sprache* 24, 1978, 158ff. Vgl. auch H. Kronasser, *EHS* 568. Fraglich, ob als Grundverb **ḫar(u)uai-* hierher gehörig: *]ḫar-u-ua-a-an-du* [238/q, 2' (Imperat. Pl. 3.). Entsprechend liesse sich ein Verbum **ḫeiauai-/ḫeuai-* erwägen (vgl. J. J. S. Weitenberg, a.a.O. 34; H. Kronasser, *EHS* 562; J. Tischler, a.a.O. 240).

²⁶Zum unpersönlichen Charakter von Witterungsverben s. Verf. *StBoT* 6, 1968, 98ff. mit Anm. 54.

²⁷J. J. S. Weitenberg, a.a.O. 35 mit Anm. 15.

manische Herkunft vermuten, und Vl. Georgiev (a.a.O. 92) hat, ausgehend vom Hethitischen, sogar ein urindogermanisches Paradigma "Regen" rekonstruiert. Keiner der bei J. Tischler (a.a.O. 239) registrierten Deutungsvorschläge ist, gemessen an den hethit. Fakten, annehmbar.

3.1. Wenn wir auf der Grundlage des oben unter 1.4. gegebenen Paradigmas von der Wurzel *h₂e-e-* und dem Stammbildungssuffix *-u-/ -au-* ausgehen, entfällt ganz sicher der Anschluß an die idg. Wurzel **ǵheu-* "gießen", so verlockend er semantisch auch sein mag. Das auslautende *-u-* in **ǵheu-* gehört zur Wurzel, während in hethit. *heu-* das auslautende *-u-* die schwundstufige Gestalt von *-au-* und damit zugleich das Stammbildungssuffix darstellt, einmal ganz abgesehen von der Problematik, die mit einer Lautentsprechung idg. **ǵh* > hethit. *h₂* verbunden ist. Ob *h₂e-e-* phonologisch eine Länge bildet, ist vorerst nicht sicher zu entscheiden (1.4.). Auch Verknüpfungsversuche mit der Wurzel **seu-* (vgl. griech. *ῥεῖ* "es regnet") oder die Ansetzung einer Wurzel **Heu-* oder **(s)Heu-*²⁸ haben aufgrund des hethit. Paradigmas, wo *-u-* (wie *-au-*) als Stammbildungssuffix zu betrachten ist, keine Realitätsgrundlage. Auch hätte zumindest nach dem heutigen Kenntnisstand idg. **eu-* der Wurzeln **ǵheu-*, **seu-* oder **(s)Heu-* wohl zu hethit. *-u-* werden sollen.²⁹ Auch Vrddhi-Bildungen dieser Wurzeln würde die hethit. Wortstruktur entgegenstehen. Ohnehin läßt sich eine Wurzel **seu-* bezüglich ihres *s*-Anlauts nicht mit hethit. *h₂* (wie in *heuš*) gleichen.

3.2. Auch Vl. Georgievs Interpretation von *heuš* als uridg. **hye'us* (usw.) ist von den hethit. Graphien her wohl kaum zu rechtfertigen. Vl. Georgievs Deutung wird auch nicht durch Hinweis auf H. Kronasser,

²⁸Literatur bei J. Tischler, a.a.O.

²⁹Vgl. H. Hoffmann (KZ 82, 1968, 215) bezüglich hethit. *luk(k)-*. Das Substantiv *tuzzi-* (ibid. Anm. 11) hingegen ist nicht beweiskräftig, da dessen Anschluss an idg. **teutā-* oder **teuti-* nach wie vor offen ist (Verf. IF 76, 1971, 66ff.). Zu **-eu-* > *-u-* s. auch A. R. Bomhard, *Orbis* 25, 1976, 208 (6.11. A).

EHS 78, abgesichert, da es dort um das Zeichen \mathfrak{E} , nicht aber um die Zeichen $\mathfrak{H}\mathfrak{E}$ und $\mathfrak{H}\mathfrak{E}$ geht. Die fast ausnahmslose Anlautschreibung $\mathfrak{h}\acute{e}-e-$ bzw. $\mathfrak{h}e-e-$ gestattet m.E. nicht die Interpretation als idg. $/hye'-/$ oder $/hi'-/$. Daran scheitert letztlich auch J. Tischlers proterodynamisches Paradigma $*\mathfrak{h}\acute{e}i-u-s : *hi-\acute{o}u-es$ (a.a.O. 239), auch wenn grundsätzlich die Entwicklung idg. $*ei \rightarrow$ hethit. $e (\rightarrow i)$ möglich ist. Es ist höchst riskant, für ein uns in seiner morphologischen Struktur noch nicht recht transparentes Substantiv wie hethit. $\mathfrak{heu}-$ von vornherein mit innerhethit. Analogiebildungen (nach adjektivischen u -Stämmen) und Paradigmaausgleich (Anlaut $\mathfrak{h}e-$ über alle Kasus verteilt; in den vollstufigen Formen $-\mathfrak{au}-$ gegenüber einem möglichen grundsprachlichen Wechsel $*-eu-/-ou-$) zu rechnen. Gerade die althethit. Belege $\mathfrak{h}\acute{e}-e-un$ und $\mathfrak{h}\acute{e}-e-a-u-e-e\mathfrak{s}$ (1.1.) müssen hier zu denken geben. H. Kronasser, A. Kammenhuber, Vl. Georgiev und J. Tischler haben im Gegensatz zu anderen die hethit. Stammabstufung mit Recht ernst genommen,³⁰ aber bezüglich der Wortwurzel besteht auch bei ihnen wenig Klarheit. Der vorhandene Ablaut im Stammsuffix macht indogermanische Herkunft für hethit. $\mathfrak{heu}/\mathfrak{heau}-$ "Regen" wahrscheinlich. Doch alle mir bisher bekannt gewordenen Etymologien überzeugen nicht oder widersprechen ganz einfach den Lautentsprechungsregeln zwischen Hethitisch bzw. Altanatolisch und Indogermanisch. Auf einen eigenen Vorschlag verzichte ich hier, insbesondere auch deshalb, weil im Rahmen der Laryngalthorien (und auch sonst) hethit. anlautendes $\mathfrak{h}-$ in der Umgebung von $-e-$ (wie in $\mathfrak{h}\acute{e}-e-u-$ usw.) bis heute noch keine allgemein akzeptierte phonologische Deutung gefunden hat.³¹

³⁰Wenn Vl. Georgiev (a.a.O. 92) z.B. den Instrumental im Stammbildungsmorphem als $*-ew-$ ansetzt, ist zu bedenken, dass in der einzigen hethit. Instrumentalform $-\mathfrak{au}-$ bezeugt ist ($\mathfrak{h}\acute{e}-e-a-u-it$).

³¹So erklärt z.B. Vl. Georgiev (a.a.O. 92) anlautendes $\mathfrak{h}-$ in \mathfrak{heu} als H_2 , während J. Tischler entsprechend seinen kurzen Präliminarien (a.a.O. Lfg. 1, VII f.) lediglich $h-$ notiert (a.a.O. Lfg. 2, 239). Vgl. die Schwierigkeiten bezüglich einer Etymologie von hethit. \mathfrak{hekur} (J. Tischler, a.a.O. 235 f.). Dass die Diskussion im Bereich der Laryngalthorien weiterhin in vollem Gange ist, zeigt das Buch von H. Jonsson,

Daß die Genitivendung in *he-au-aš* vollstufig ist (statt bei den *u*-Stämmen grundsprachlich zu erwartendem schwundstufigem *-s*), braucht nicht zu überraschen, da im Hethitischen die Endung *-aš* (< **-os*) sich offensichtlich bei allen Stämmen durchgesetzt hat.³²

4.0. Anliegen dieser kleinen Studie war der Versuch, zu einer Klärung der innerhethit. Verhältnisse bezüglich des hethit. "Regen"-Wortes *heu-* (unter Berücksichtigung des hethit. Verbums für "regnen") beizutragen oder zumindest in die allgemeine Diskussion einige zusätzliche Argumente und Überlegungen einzubringen. H. Kronasser (*VLFL* 115) hat wohl als einer der ersten Entscheidendes hinsichtlich des stammbastufenden Paradigmas von *heu-* richtig erkannt. Sieht man einmal von (jüngeren) Doppelformen und dem Gleitlaut *-i-* ab, ergibt sich zusammenfassend für *heu-* anhand der Beleglage folgendes Teilparadigma:

	Wurzel	Suffix	Endung
Sg. Nom.	<i>he</i> ³³	<i>u-</i>	<i>-š</i>
Akk.	<i>he-</i>	<i>u-</i>	<i>-n</i>
Gen.	<i>he-</i>	<i>au-</i>	<i>-aš</i> ³⁴
Instr.	<i>he-</i>	<i>au-</i>	<i>-i/et</i>
Pl. Nom.	<i>he-</i>	<i>au-</i>	<i>-eš</i>
Akk.	<i>he-</i>	<i>am</i> ³⁵	<i>-uš</i>

The Laryngeal Theory: A Critical Survey, Lund, 1978.

³²Zu einer hethit. Genitivendung *-š* s. Verf. in E. Neu und W. Meid (ed.), *Hethitisch und Indogermanisch*, 1979, 185f.

³³Mit Ausnahme im Akkus. Pl., wo zufällig die Graphie *he-e-* bezeugt ist, läßt sich für die übrigen Kasusformen die Anlautschreibung *hé-e-* belegen.

³⁴Bisher ist eine ablautende Genitivform nur mit Gleitlaut *-i-* bezeugt (1.3.).

³⁵Aus **heayuš* (*-au-*) entstanden.

Eine überzeugende Etymologie für das hethit. "Regen"-Wort steht noch immer aus. Sollte sie einmal gefunden sein, wird man auch die Frage nach dem grundsprachlichen (indogermanischen) Paradigma noch einmal aufgreifen müssen.³⁶

³⁶Das hier gebotene Paradigma lässt schon von seiner morphologischen Struktur her nicht so ohne weiteres eine Transformation ins Indogermanische zu. -- Die Annahme von Einflüssen seitens der *u*-stämmigen Adjektive etwa auf der Basis einer vermeintlichen Reimbildung des Typus *aššamuš heamuš* hat schon deswegen auszuschneiden, weil sporadisch auftretende Reimbildung in keinem Fall zu strukturellen Veränderungen des gesamten Paradigmas geführt hat; vgl. *šallai haššannai* (statt *haššanni*) oder *dankuyai taknai* (statt *takni*), s. Verf. in: E. Neu und W. Meid (ed.), *Hethitisch und Indogermanisch*, 1979, 188.

A FUNCTIONAL VIEW OF WORD EQUATIONS

CHRISTIAN PEETERS
Université Libre de Bruxelles

1. Old English *wyréan*:

The Old English verb *wyréan* "make, perform, build, etc." has cognates in the other Old Germanic languages: Goth. *waurkjan*, OHG *wurhen*, *wurken*, OIce. *yrkja*. All these forms are traditionally traced back to a Proto-Germanic reconstruction **wurkjan-*. When one compares the Gothic and Old English words to their common source PGmc **wurkjan-*, one will at first sight consider that the Gothic word *waurkjan* is more archaic than its Old English cognate *wyréan*. A comparison between PGmc **wurkjan-* and Goth. *waurkjan* reveals indeed one sound change: PGmc **u* > Goth. *au* /ɔ:/, whereas a comparison between PGmc **wurkjan-* and OE *wyréan* reveals three changes: PGmc **u* > OE *y*, PGmc **k* > OE *é* /tʃ/, PGmc **-jan-* > OE *-an*. It would therefore seem that Goth. *waurkjan* stands closer to its Proto-Germanic origin than OE *wyréan*. This would be quite right if comparative reconstructions were accurate phonetic transcriptions of the lost linguistic reality. This is, however, not so. If comparative reconstructions can be quite exact, it is from a functional point of view only. Their phonetic substance remains hypothetical. If we look at our equation from a mere functional point of view, we come to quite different results. An OE *y* is indeed always the result of the so-called *i*-umlaut of a PGmc **u*. Starting from OE *y* we thus not only posit PGmc **u* in the stressed syllable but we also find the right Proto-Germanic infinitive ending. In itself OE *-an*

could be PGmc **-an-* as well as PGmc **-jan-*. But since we need an *i*-umlaut position to account for OE *y* in the stressed syllable, OE *-an* in *wyréan* can only be from PGmc **-jan-*. OE *é* /tʃ/ as well as OE *e* /k/ always proceeds from PGmc **k*. There is only one ambiguity: in this position OE *r* could be the result of PGmc **r* or PGmc **z*. Starting from OE *wyréan* we would posit PGmc **wurkjan-* or PGmc **wuzkjan-*. If we do the same exercise with Goth. *waurkjan* we see that Goth. *w-*, *-r-*, *-k-*, and the infinitive ending *-jan* are quite unambiguous, they are from PGmc **w-*, **-r-*, **-k-*, and **-jan-*. Goth. *au* /ɔ:/ is more problematic. Normally Goth. *au* supposes the Proto-Germanic diphthong **au* which may occur before all kinds of consonants. But PGmc **u*, which normally became *u* in Gothic, appears as *au* in this language before *r*, *h*, or *hw*. We thus see that a Goth. *au* before *r* is ambiguous: it could be from PGmc **u* or from PGmc **au*. Starting from Goth. *waurkjan* we would therefore posit PGmc **wurkjan-* or PGmc **waurkjan-*. Here also there is one ambiguity, i.e. one phoneme for which there are two possible sources. Obviously a language form in which all relevant distinctions of the parent language would have been retained is a form which enables the linguist who knows the relevant changes or correspondences to infer the exact proto-form without any ambiguities. Considering this we can say that Goth. *waurkjan* and OE *wyréan* are equally divergent from and equally close to their common source PGmc **wurkjan-*. They have both merged only one relevant distinction of the proto-form.

2. Old Saxon *fōdian*:

The Old Saxon verb *fōdian* "feed" offers a more striking illustration of the principles presented in the preceding paragraph. OS *fōdian* is cognate with Goth. *fōdjan*, OE *fēdan*, OHG *fuoten*, and OIce. *fœða*. The traditional Proto-Germanic reconstruction is **fōðjan-*. A comparison of these cognates with their common source would seem to reveal that the Gothic and Old Saxon forms, which are nearly identical with PGmc **fōðjan-*, stand closer to their common origin than all the other

Germanic cognates. Among the latter OHG *fuoten* seems to display the greatest deviation from the Proto-Germanic source. This is, however, not so from a purely functional point of view. In spite of their resemblance Goth. *fōdjan* and OS *fōdian* are quite different. Whereas the Gothic word is totally unambiguous, the Old Saxon word shows a merger of two different Proto-Germanic phonemes. This means that a comparatist who knows his job would automatically trace Goth. *fōdjan* to PGmc **fōðjan-*. In the case of OS *fōdian* he would only be able to say that the second Old Saxon phoneme, i.e. *ō*, could represent PGmc **ō* or PGmc **au* as illustrated by the following examples: PGmc **χlaupan-* > OS *-hlōpan*, PGmc **auk* > OS *ōk* versus PGmc **mōtjan-* > OS *mōtian*, PGmc **γōðaz* > OS *gōd*. OHG *fuoten* is still functionally unambiguous in spite of its quite different phonetics. OHG *uo* always goes back to PGmc **ō* as is shown by the following examples: PGmc **γōðaz* > OHG *guot*, PGmc **γrōnjaz* > OHG *gruoni*. From this we may conclude that whatever its exact pronunciation may have been, OHG *uo* always points to PGmc **ō*. The same applies to initial OHG *f*: PGmc **faran-* > OHG *faran*, PGmc **fūlaz* > OHG *fūl*, etc. OHG *t* after a vowel also has only one possible source: PGmc **ð*: PGmc **rauðaz* > OHG *rot*, PGmc **laiðjan-* > OHG *leiten*, etc. In spite of the important differences between OHG *-en* and PGmc **-jan-*, the Old High German infinitive ending is still quite clear from a retrospective diachronic point of view because the other Proto-Germanic infinitive endings are still clearly kept apart in Old High German: OHG *-en* = PGmc **-jan-*, OHG *-an* = PGmc **-an-*, OHG *-ēn* = PGmc **-ǣjan-*, OHG *-ōn* = PGmc **-ōjan-*. We thus see that there is no difficulty in tracing OHG *fuoten* to PGmc **fōðjan-* without a reference to any other Germanic language. This shows that all the relevant distinctions that were present in the original form of the word have been preserved in Old High German.

General Conclusion:

In the preceding comparative notes we have looked at cognates and

their reconstructions in terms of phoneme correspondences and not in terms of phonetics and phonetic approximation. We have also looked at them from a retrospective diachronic point of view, i.e. moving backwards from the attested forms to their possible sources. This is the best means to secure a purely functional view of the matter. It is also the best means to test the functional relationship between words and their proto-forms. This method sometimes yields unexpected results. As we have seen, OHG *fuoten* is functionally closer to PGmc **fōðjan-* than OS *fōðian*, and OE *wyréan* does not deviate more from PGmc **wurkjan-* than Goth. *waurkjan*. Two words like Goth. *fōðjan* and OS *fōðian*, which are almost identical, have a quite different functional relationship to their common origin.

GREEK NOUNS OF THE TYPE OF κνημῖς

JAMES W. POULTNEY
Johns Hopkins University

The Greek δ-stems which have a long instead of a short υ, as illustrated by κνημῖς, κνημῖδος, are found in Buck's *Reverse Index* mixed together with the productive and far more common type in -ῖς, -ῖδος (e.g., ἀσπίς, ἀσπίδος), though with macrons to indicate the length of the υ. Thirty-four nouns can be isolated which occur at least once with a long υ shown by the testimony of Herodian, v. II, p. 18, or by circumflex accent or metrical evidence, compounds like εὐκνήμις of course not being figured separately in the count.¹ The passage in Herodian is important not only because of the forms cited but even more so because of his remarks on the metrical structure of the forms. It is therefore given here in full:

Τὰ εἰς υς λήγοντα βαρύτερα ἀεὶ συστέλλει τὸ ῖ, εἰ μὴ σύνθετα ὑπάρχοι ἐξ ἀπλῶν ἐκτεινόντων τὸ ῖ, κόνις, δῆρις, μάντις, ὄρχις, ὄφις, λάτρις, ὄρνις, Ἀριστοκλῆς δὲ ἐν τῷ | περὶ διαλέκτων φησὶν Ἀττικοὺς ἐκτείνειν. προσέθηκα δὲ εἰ μὴ σύνθετα εὔη ἐξ ἀπλῶν ἐκτεινόντων τὸ ῖ διὰ τὸ κνημῖς εὐκνήμις, ψηφίς μελαμφήφις καὶ ὅσα τοιαῦτα. Τὰ μέντοι ὀξύτερα θηλυκὰ εἰς υς λήγοντα μὴ καθαρεύοντα

¹Two other forms, ῥακίς "branch, bough" and τευθίς "(smaller) squid" are cited in Buck, *Reverse Index*, p. 420, as having long υ, and the latter form is cited also in Chantraine, *Dictionnaire*, but I have not succeeded in finding unambiguous and textually sure examples in the passages where these forms are alleged to occur. It is worth mentioning, however, that they conform to the same metrical pattern (spondaic in the nom. sg.) as the majority of the other examples.

μεμελέτηκε καὶ ἐκτείνεσθαι καὶ συστέλλεσθαι. τοὺς μὲν οὖν συστέλλουσι τὸ τ ἀδιάφορος ἢ πρὸ τέλους εἴτε μακρὰ εἴτε βραχεῖα, βολύς, ῥανύς, αἰγύς, μηλύς, Δωρύς. τοὺς δὲ ἐκτείνουσι τὸ τ , καὶ μάλιστα ἐπὶ δισυλλάβων, ἢ πρὸ τέλους μακρὰ ὑπῆρχεν ἥτοι φύσει ἢ θέσει, κηκίς, κηλίς, νησίς, κρηνίς, ψηφίς, σφραγίς, ἀψίς, βαλβίς, φαρκίς. τὸ μέντοι καρύς καὶ ῥιπύς ἢ μὲν κοινὴ συνήθεια ἐκτείνειν, ἢ δὲ τῶν Ἀθηναίων δι᾿ ἁλεκτος συστέλλει. δισύλλαβα δὲ παρεθέμην, ἐπεὶ ὁράται τρισύλλαβα βραχεῖα παραληγόμενα καὶ κατὰ τὴν συνήθη χρῆσιν καὶ κατὰ τὴν τῶν Ἰώνων ἐκτείνοντα τὸ τ . κατὰ δὲ τοὺς Ἀττικοὺς συστέλλονται. πλοκαμίς, κεραμίς, καλαμίς, βλεφαρίς, ῥαφανίς. τὸ δὲ ἀγαθύς ἀεὶ συστελλομένως. οὕτω δὲ καὶ ἡ τρυφαλὺς συστέλλεται. Καὶ ἐπίστασιν ἔχει τὸ κληίς ἐκτεινόμενον καὶ καθαρεῦον. τὰ δὲ λοιπὰ πάντα συστέλλονται, Λαῦς; Ναῦς, Θησηίς, δμωίς, ἡρωίς, Μινωίς.

Greek Nouns in -ίς, -ῖδος

Word		Meaning	Literary Attestation	Source of Derivation
ἄλεκτορίς	2 3	"hen"	Herodas+	ἀλέκτωρ "cock"
ἄρπύς	3	"type of shoe"	Callimachus	ἄρπη "sickle" (?)
ἀψύς	1 2 3	"disk, arc, fellow of wheel"	Homer+	?
βαθμίς	2 3	"step, threshold, base"	Meleager+	βαθμός "step, threshold"
βαλβίς	1 2 3	"turning-post in racecourse"	Sophocles+	(foreign)
βατραχίς	2 3	"frog"	Nicander	βάτραχος "frog"
Βενδῖς	1	"name of a Thracian goddess"	Hipponax	(foreign)
βλεφαρίς	1	"eyelash"	Herodian	βλέφαρον "eyelid, eye"
δορκαλίς	2 3	"gazelle, knuckle-bone"	Herodas	δορκάς "deer, gazelle"
καλαμίς	1 2 3	"reed, case for reed-pen"	Anthol. Pal.	κάλαμος "reed"

κανονύς	2? 3?	"line-ruler, etc."	Anthol. Pal.	κανών "straight rod, ruler"
καρύς	1 2 3	"shrimp, prawn"	Ararus	?
κεραμύς	1 2	"tile, tiling, potsherd, potter's earth"	Empedocles	κέραμος "clay, earthen vessel"
κηκύς	1 2 3	"substance gushing or oozing forth"	Aeschylus+	+ κηκῖω "gush forth" (?)
κηλύς	1 2 3	"spot, stain, blemish"	Aeschylus+	(cogn. with Lat. <i>cālidus</i> ?)
κληύς	1 2 3	"bar, bolt, key"	Homer+	(to * <i>klāwo-</i> as Lat. <i>clāvis</i> to <i>clāvus</i> ?)
κνηκύς	3	"pale spot (esp. in sky), kind of antelope"	Callimachus	κνηκος "saffron", κνηκός "pale yellow"
κνημύς	1 2 3	"greave, shin-guard"	Homer+	κνήμη "shin"
κρηνύς	1 2 3	"spring, fountain"	Euripides+	κρήνη "spring, fountain"
κρηπύς	2 3	"high shoe, foundation of building"	Aeschylus+	?
μαυνύς	2 3	"name of a small fish"	Oppian	μαύνη "sprat"
νεβρύς	2 3	"fawnskin, fawnskin garment"	Dion, Perieg.	νέβρος "fawn"
νησύς	1 2 3	"islet"	Herodotus+	νησος "island"
πλοκαμύς	1 2 3	"lock of hair"	Homer (Εὐπλ-)+	πλοκαμός "lock of hair"
πυργύς	2 3	"cupboard, cabinet"	Herodas	πύργος "tower"
ράφανύς	1 2 3	"radish"	Cratinus+	ράφανος "cabbage, wild radish"

ῥῦπς	1 2 3	"fan (for the fire)"	Aristo	ῥῦπή "rapid motion" (or ← ῥῦπζω "fan a flame" ?)
στηλς	2 3	"little monument"	Epigr. Gr.	στήλη "stone block, monument"
σφραγς	1 2 3	"seal, signet"	Theognis+	?
σχολνς	2 3	"rope, cord"	Theocritus+	σχοῦνος "rush, rope"
φαρκς	1	"wrinkle"	Sophocles	?
χειρς	2 3	"glove, sleeve"	Homer+	χεῖρ "hand, arm"
ψαμαθς	2 3	"name of a sea-fish"	Numenius	ψάμαθος "sand"
ψηφς	1 2 3	"small pebble"	Homer+	ψῆφος "pebble"

Herodian, v. I, p. 526, is almost identical except that this latter passage cites ἀρπς, which was missing in v. II, 1, p. 18. The forms are presented in the table in synoptic fashion, but are discussed in some detail in the text below. The forms in the table are all cited in the nominative singular regardless of the case-form in which they are actually attested. The names of the authors in the third column have reference to forms with long υ, not those with short υ, even though the latter are sometimes much more frequent or much earlier attested. A figure 1 after the form in the left column means that the length of the υ is attested by Herodian, figure 2 that it is attested by circumflex accentuation in one or more instances, and figure 3 that it is attested by metrical evidence in one or more instances.

ἄλεκτορς, feminine of ἄλέκτωρ: the length of the υ is assured in Herodas 6.99-100 ἄδρησαι / αἱ ἄλεκτορῦδες εἰ σοῦαι εἰσοῦ. In the following passages short υ is assured by the accentuation, and in the Epicharmus passages by the meter as well: Epich., fr. 152 Kaibel (= 103 Ah-

rens) ὡσα χανὸς κάλεκτορύδων πετεηνῶν; fr. 172 Kaibel (= 96 Ahrens) καὶ γὰρ τὸ θῆλυ τῶν ἀλεκτορύδων γένος; Hp., *Int.* 27 ἀλεκτορύδος; *Nat. Puer.* 29 ἀλεκτορύδων; Arist., *H. A.* 614b 10 ἀλεκτορύδος θηλείας.

ἀρπύς: Frisk and Chantraine hesitantly favor derivation from ἄρπη "sickle" on the assumption that the shoe had a curved shape. Long ι is certain in Call., fr. 235 Pfeiffer θῆκε σὺν ἀρπύδεσσιν (dactylic hexameter), but the accentuation shows a short ι in *EM* 148.36 ἀρπύδες, ἃ δὲ καὶ κρηπίδας καλοῦσι.

ἀψύς: name of several arc-shaped or circular objects, including "felloe of a wheel, disk, arch or vault" and also "net". Perhaps related to ἄπτω "catch", but no noun is quotable from which ἀψύς may be immediately derived. The long ι is abundantly attested: E 587 ἀψύσι λύνου' ἀλόντε πανάγρου; *Hdt.* 4.72 ἀψύδος; Eur., *Hipp.* 1233 ἀψύδα πέτρῳ προσβαλὼν ὀχήματος; *Ion.* 88 (anapaestic); Ar., *Th.* 53 (anapaestic); Pl., *Phdr.* 247b ἐπὶ τὴν ὑπουράνιον ἀψύδα. Short ι is assured by the meter, however, in *Epigr. Gr.* 440.9 ὕψ' ἀψύδα τήνδ' Ἰομήδης.

βαθμύς: the root is that of βαῖνω, and the form having the closest etymological relationship is βαθμός "step, threshold", etc. The ι is long in Meleager, *A. P.* 7.428.3-4 ἐπ' αὐτᾶς / βαθμύδος προπεσών, but short in Pi., *P.* 5.7 ἀκρᾶν βαθμύδων ἄπο, as shown by strophic corespon- sion, and in N. 5.1 ἐπ' αὐτᾶς βαθμύδος and Hipp., *Fr.* 2 βαθμύδι. In this last passage Littré cites some manuscript variants but none which affect the length of the ι.

βαλβύς: the word has no clear etymology and may be of non-Greek origin. The long ι is sure in Soph., *Ant.* 131-2 παλτῷ ῥιπτεῦ πυρὶ βαλ- βύδων / ἐπ' ἄκρων (anapaestic); Eur., *Med.* 1245 λάβ' ἔρπε πρὸς βαλβύδα λυπηρὰν βίου; Ar., *Vesp.* 548 βαλβύδων (anapaestic). In several passages the orthography and meter are indecisive, but I have not located any clear instances with short ι.

βατραχὺς: diminutive of βάτραχος "frog". The υ is long in Nic., *Th.* 416 ἀγρώσων λειμῶσι μολουρύδας ἢ βατραχῦδας, but short in Ar., *Eq.* 1406 ἔπου δὲ ταυτηνὶ λαβὼν τὴν βατραχίδα (of a frog-green garment); Dio Cass., 59.14 τῷ τὴν βατραχίδα ἐνδύοντι; Alex. Trall., 3.6 Puschmann βατραχίδος τῆς βοτάνης (an herb, a species of ranunculus).

Βενδῦς: presumably of Thracian origin. Kretschmer, p. 236, and Dečev, pp. 50-1, connect it with the root IE **bhendh-* "bind", the goddess being the "Verbinderin" who unites lovers. The word first occurs in Hipponax, *fr.* 120 Bergk = 127 Mass. καὶ Διοσκοῦρος Κυβήβη καὶ Θρεῦκίη Βενδῦς. Evidence for the length of the υ and for inflection as a dental stem through a part of the paradigm is found in Herodian, v. I, p. 107 Εὐ δὲ εἰς τῷ ἔχουσι τὴν αἰτιατικὴν, περισπῶνται, Βενδῦς, Μολῦς, Τογῦς, Ἀταργατῦς; Choerob., p. 328 Ἰστέον δὲ ὅτι τὰ εἰς τῷ περισπώμενα θηλυκὰ διὰ τοῦ δος κλίνονται καὶ εἰς ῥ μόνως ἔχουσι τὴν αἰτιατικὴν, οἷον Βενδῦς, Βενδῦδος, Βενδῦν. The dental stem receives some indirect support from Βενδῦδειον "temple of Bendis" in Xen., *HG* 2.4.11.

βλεφαρύς: the only evidence for long υ is in Herodian cited above. The υ is short in Ar., *Eq.* 373 τὰς βλεφαρύδας σου παρατιλῶ (iambic), Ec. 402 ὃ αὐτὸς αὐτῷ βλεφαρύδ' οὐκ ἐσώσατο; Xen., *Mem.* 1.4.6 ἡθμὸν βλεφαρύδας ἐμφῦσαι.

δορκαλὺς: in Frisk and Chantraine it is included under δορκάς, from which it is apparently derived by replacement of -αδ- by the composite diminutive suffix -αλυδ-. The υ is long in Herodas 3.15 αἶ δορκαλύδες δὲ λιπαρώτεραι πολλόν, where the reference is to dice made from the knucklebones of the animal, but short in the more numerous passages where the reference is to the animal itself: Call., *Ep.* 33.2 ὕσχια δορκαλύδος (second half of an elegiac pentameter) and similarly Agathias, *A.P.*, 7.578.6, 5.291.12; Opp., *Cyn.* 1.165 νεβροὶ δορκαλύδες τε θααλί (dactylic hexameter).

καλαμῖς "reed, case for reed-pen" and several closely related meanings. It is derived from κάλαμος as βατραχῖς from βάτραχος and partly identical in meaning with κάλαμος. Evidence for long *ι* is found in Herodian cited above and in *A. P.* 10.11 ὑπὲρ καλαμῖδα παλύνας (dactylic hexameter) and *Paul. Aeg.* 6.24 διὰ καλαμῖδος, but short *ι* is better attested: *Poll.*, 10.59 καλαμῖδα, *Dsc. Eurp.* 1.70 καλαμῖδι, *Paul. Aeg.* 2.91 καλαμῖδα, *Phld.*, *Po.* 2.41 καλαμῖδι.

κανονῖς "line-ruler, cross-bar" and other meanings related to those of κανών, of which it is a derivative. A possible instance with long *ι* occurs in *Phil. Thess.*, *A. P.*, 6.62.3 καὶ κανονῖδ' ὑπάτην, which Stadtmüller emended to read καὶ κανόν' ἱθυβάτην. Short *ι* occurs in *Arist.*, *Ath.* 64.2 κανονῖδα, κανονῖδες.

κᾶρις: for the etymology Frisk and Chantraine are in essential agreement: Athenaeus' derivation (106b) from κάρᾱ is a popular etymology; derivation as a popular shortening of κάρᾱβος, name of a prickly crustacean, is better; or else with *Adjarian*, *MÉL. Boissacq* 1.4, κᾶρις and *Arm. karič* "scorpion" may both be Asiatic loan-words. Athenaeus 3.105d ff. cites several passages from comedy and mock epic specifically as evidence for length of the *ι*: ὁ δὲ ὀψοδαίδαλος Ἀρχέστρατος παραινεῖ τάδε (*fr.* 24 Ri.) ... / καρῖδ' εὐμεγέθη λήφῃ (hexameter) ... ἐκτεταμένως δ' εἴρηκε καρῖδα Ἀραρῶς μὲν ἐν Καμπυλίωνι αὔτε καμπύλαι / καρῖδες ἐξήλλοντο δελφίνων δύκην (= *fr.* 8.2-3 Edmonds) καὶ Εὐβουλος ἐν Ὀρθάνῃ καρῖδα δὴ καθηκάτω κἀνέσπασ' αὖθις (*fr.* 78, rest. Edmonds). Ἀναξανδρόδης Λυκούργῳ καὶ συμπαύξει καριδαρῖους / μετὰ περκιδῶν (anapaestic; indirect evidence for long *ι* in the primary form καριδ-, since the diminutive could not be scanned with short *ι*); 106a ἐν δὲ Κερκῖφι ἐρυθρότερον καρῖδος ὀπτῆς σ' ἀποφανῶ. The *ι* is short in *Ananias*, *fr.* 5 τῶν (θήρει) καλῶν δ' ἄριστον καρῖς ἐν συκῆς φύλλου (trochaic tetrameter with choliambic ending); short *ι* also in *Cratinus*, *fr.* 238 Edm., *Eupolis*, *fr.* 7 Edm., *Lucian*, *Mere. Cond.* 3. Two dialect variants are known, κουρίς and κωρίς, whose precise etymological relationship to καρῖς is not clear:

Epich., *fr.* 31 Kaibel = 12 Ahrens κούριδας δὲ τὰς καρτίδας εἴρηκε ...
 'Ε. ἐν Γᾶι καὶ θαλάσσαις κούριδες τε ταὶ φοινύκλαι ... ἐν δὲ λόγῳ καὶ
 λογίῳ διὰ τοῦ ω εἴρηκεν ἀφύας τε κωρίδας τε καμπύλας; Semonides, *fr.*
 15 Bergk = 13 Diehl θύνοισι τευθίς, κωβιοῖσι κωρίδες.

κεραμύς "tile", collectively "tiling"; also "potsherd" and "pot-
 ter's earth". The relationship to κέραμος is like that of καλαμύς to
 κάλαμος. Two passages cited from Empedocles have long ι: Arist., *E.*
E. 1235a 12 'Εμπεδοκλῆς καὶ τὴν κύν' ἔφη καθῆσθαι ἐπὶ τῆς κεραμῖδος.
M. M. 1208b 11 κυνός ποτε ἀεὶ καθευδούσης ἐπὶ τῆς αὐτῆς κεραμῖδος.
 Short ι however is much better attested: Ar., *Vesp.* 206 ὑπὸ τῶν κερα-
 μῖδων ἡλιαστῆς ὀροφίας. Thuc. 3.22.4, Plato, *Critias* 111d κεραμίδι γῇ
 with κεραμίδι as a manuscript variant; *Laws* 844b, Diph. *fr.* 84 Edm.
 (in a position where iambic trimeter will not admit a long vowel), Plb.
 10.27.10, Ath. 5.207a, 14.621a.

κηκίς: applied to substances (blood, pitch, etc.) gushing, bub-
 bling or oozing forth; also "oak-gall" or a dye made from it. Frisk
 and Chantraine declare the etymology to be uncertain, though the former
 suggests the possibility of a back-formation from κηκῖω "gush or ooze
 forth". Long ι is assured by the meter in Aesch., *Ag.* 960 κηκῖδα (verse-
 initial), *Cho.* 268 θανόντος ἐν κηκῖδι, while the circumflex accent in
 two prose passages gives further support: Dem. 27.43 τῆς κηκῖδος; Ph.,
Bel. 102.32 κηκῖδος θαλασθείσης. Short ι however is attested by the
 acute accent in Hipp., *Nat. Muł.* 32 κηκίδα (κηκίδα v. 1 in CDHIJK) and
 Theophr., *H. P.* 3.8.6 κηκίδας.

κηλίς "stain, spot, blemish", including moral defilement or dis-
 grace: assumed to be related to Lat. *cālidus*, Umb. *kaleřuf*, term ap-
 plied to animals with a white spot on the forehead, but there is no at-
 tested primary form like κάλαμος beside καλαμύς, κνήμη beside κνημύς.
 Long ι is assured by the meter in Aesch., *Eum.* 787 βροτοφθόρους κηλῖδας,
Soph., *El.* 446 κηλῖδας ἐξέμαξεν, *O. T.* 1384 τοιάνδ' ἐγὼ κηλῖδα, Eur.,

I. T. 1200 εὖπερ γε κηλὶς ἔβαλέ νυν μητροκτόνος. Prose passages with circumflexed *ι* include Antiphon, 3.8.11, Arist., *Insomn.* 459b.32, G. A. 780b.32; Lycus apud Orib., 9.44.1. In Xen., *H. G.* 3.1.9 the quantity of the *ι* in κηλὶς is undeterminable, but I have found no instances with *ι* clearly short.

κληῦς: the Attic paradigm is nom. κλεῦς, gen. κλειδός, acc. κλεῖν and κλεῖδα, and there are several dialectal forms with *ā*. κληῦς, κλεῦς is also second member of several compounds. A stem *κλᾶω-, as the source of derivation, is indirectly attested by Lat. *clāvus* "nail", and Lat. *clāvis* "key" would be analogous in formation to κληῦς < *κλᾶwis, if not borrowed from it, as has been suggested. Long *ι* in the uncontracted forms is abundantly attested: Θ 325 ὄθι κληῦς ἀποέργει, Π 170 ἐπὶ κληῦσιν ἑταῦροι and many other Homeric passages; Parmenides, *fr.* 1.14 Diels ἔχει κληῦδας ἀμουβούς. In Simonides, *fr.* 23 Bergk = 42 Diehl κλαῦδος χαραξιπόντου on the other hand, though there is no core-spension, the short *ι* implied by the acute accent seems assured.

κνηκῖς: according to Frisk and Chantraine derived from κνήκος "saffron", beside which is to be compared κνηκός "pale yellow, tawny". Long *ι* is attested in Call., *fr. anon.* 36 = 238.17 Pfeiffer οὐδέ ποθι κνηκὶς ὑπεφαίνετο, πέπτατο δ' αἰθήρ, but acute accentuation is evidence of short *ι* in Cleomedes 2.1.72 κνηκίδες and in Plutarch, *Moralia* 2.581 κνηκίδος.

κνημῖς: clearly derived from κνήμη "shin, shin-bone, spoke of a wheel". Long *ι* is attested in T 369 κνημῖδας μὲν πρῶτα περὶ κνήμησιν ἔθηκε and other passages, as well as in the frequent formula ἐν κνήμιδες Ἀχαιοί. Short *ι* on the other hand occurs in Alcaeus, *fr.* 15.4 Bergk = 54.4 Diehl λάμπραι κνήμιδες, where the short *ι* is assured by the scansion of six other lines in the passage; also in Diod. Sic. 18.27 κνημίδες.

κρηνύς: derived from κρήνη, with which it is largely identical in meaning. Long *υ* occurs in Eur., *Hipp.* 208 πῶς ἂν δροσερᾶς ἀπὸ κρη-
νῦδος (anapaestic), Call. *fr. anon.* 98 = 751 Pfeiffer Κυδαλύνης κρηνῦδος,
Theocr. 1.22 καὶ τῶν κρηνύδων κατεναντίον (dactylic hexameter). Short
υ is found in Dion. Hal., *Ant. Rom.* 1.32.4 κρηνύδες, Strabo 7, *fr.* 34
ἐν ταῖς Κρηνύσιν.

κρηπίς: possibly a foreign loan, though closely similar in forma-
tion to κνημὺς "greave" and χειρὺς "glove", according to Frisk and Chan-
traine. Evidence for long *υ* appears in Aesch., *Pers.* 814-5 κοῦδέπω
κακῶν / κρηπίς ὕπεστιν, where however many editors in place of the dif-
ficult ms. reading adopt Hermann's emendation κρηνὺς ἀπέσβηκ'; Pind.,
Pyth. 4.138 βάλλετο κρηπιῶσα σοφῶν ἐπέων; also Xen., *Eq.* 12.10 αἱ κρη-
πιῶδες, Hegemon, *Parod.* 4 (dactylic hexameter).

μαινύς: diminutive of μαῖνη, name of the fish *maena vulgaris*.
The only instance with long *υ* appears to be in Oppian, *H.* 1.103 Lehrs
βόσκονται μαινῦδες ἰδὲ τράγοι ἡδ' ἄθερῦναι. The *υ* is short in Ar.,
Ran. 984-5 τίς τὴν κεφαλὴν ἀπεδήδοκεν / τῆς μαινῦδος; (iambic dimeter),
Philyllius, *fr.* 27 Edm., Ael., *Hist. Anim.* 12.28.

νεβρύς: two instances with long *υ* occur in Dionysius Periegeta:
703 νεβρῦδας ἐπὶ στήθεσσι βαλόντες and 946 αὐτὰρ ὁ νεβρῦδας μὲν ...
In the following iambic trimeter passages short *υ* is supported both by
the accentuation and by the meter: Eur., *Bacch.* 24 ἀνωλδύξα νεβρύδ'
ἐξάφας, 249, 696, Thespis, *fr.* 1 Nauck ἔργῳ νόμιζε νεβρύδ' ἔχειν ἐπεν-
δύτην.

νησύς: abundantly attested with long *υ*: Hdt. 8.76 ἐς τὴν νησίδα
τὴν μεταξὺ Σαλαμῦδος ... καὶ τῆς ἡπέυρου (the minute island Psyttaleia),
8.95 νησίδι (of the same island), Thuc. 8.14.3 ἐκ τῆς νησῦδος (Ciaso-
menae), Call., *fr.* 524 = 470 Pfeiffer ὀλύγην νησίδα Καλυψοῦς; Lyc. 599
φερώνυμον νησίδα; Strabo 3.5.5 τὰς νησῦδας. Polyb. 16.2.8 on the other

hand has τὰς νησίδας.

πλοκαμῖς: a derivative of πλόκαμος "lock or braid of hair" and identical with it in meaning, is apparently limited to hexameter poets, who could use no forms of *πλοκαμῖς except the nominative singular, though they could use any form of the primary πλόκαμος except the vocative. The formula ἐμπλοκαμῖδες Ἀχαιαί occurs in β 119 and τ 542. The uncompound πλοκαμῖς occurs in Theocr. 13.7 τοῦ τὰν πλοκαμῖδα φορεῦν-τος Euph. 140, <Bion> 1.20, Opp., *H.* 2.125, *C.* 3.179, Nonn., *D.* 4.133, 5.385.

πυργῖς: cited by Frisk and Chantraine as one of several diminutives under πύργος "tower". It occurs only in Herodas 7.15 in the accusative πυργῖδα at the beginning of a choliambic verse, the length of the ι being therefore confirmed by the meter.

ράφανῖς: derived from ῥάφανος "cabbage" but also "(wild) radish". The long ι has exceptionally good support: Cratinus, *fr.* 313 Edm. ταῖς ῥαφανῖσι δοκεῖ (dactylic hexameter), Ar., *Nub.* 981 ῥαφανῖδος, *Plut.* 544 ῥαφανῖδων *fr.* 253 Hall and Geldart ῥαφανῖσιν (these last three all at the end of anapaestic tetrameters).

ῥιπῖς: is derived from ῥιπή "rapid motion" or is possibly a back-formation from ῥιπῖζω "fan a flame". ῥιπῖδα with long ι occurs in Ariston, *A. P.* 6.306 (hexameter), while Herodian, cited above, declares the ι to be long in the Koinē but short in Attic. It is shown to be short by both accentual and metrical evidence in Ar., *Ach.* 669 ῥιπῖδι (lyrical with coresponson) and 888 ῥιπῖδα (iambic trimeter, at end of verse), Dioscorides, *A. P.* 6.290 ῥιπῖδα (at beginning of hexameter).

στηλῖς "little monument", like στηλῖδιον, στηλῖον, which LSJ equates in meaning with it, is a clear diminutive of στήλη "stone block, monument". The length of the ι is shown by metrical evidence in Epigr. Gr.

425.7 τοῖς παῖς εὐσεβέης ἔνεκεν στηλίδας ἄραηεν, where a long ι is required despite the accute accent; also in IG XIV 1703 ΣΤΗΛΕΙΔΟΣ (of Roman date; cf. Schwyzer, *Gr. Gr.* p. 184 on the frequent use at this period of ει for long ι). Short ι occurs in Iamblichus, *in Nic.* p. 95P ed. Pistelli στηλίδας.

σφραγίς: the etymology is extensively discussed by Frisk, but is uncertain; in any case there is no clear and direct source of derivation in Greek. The length of the ι is abundantly attested: Theognis, 19 Κύρνε, σοφιζομένω μὲν ἐμοὶ σφραγίς ἐπικεύσθω, *Ar., Av.* 560 ἐπιβάλλειν / σφραγῖδ' αὐτοῖς (anapaestic tetrameter), *Th.* 415 σφραγῖδας ἐπιβάλλουσιν (iambic trimeter), *Ecol.* 632 καὶ τῶν σφραγῖδας ἐχόντων, etc. An accusative form σφραγῖν with inflection as a short ι-stem, is cited as Aeolic by Choeroboscus, in *Theod.* 1.37 Hilgard, with σφράγιν as a variant reading.

σχολινίς: derived in the normal manner as a diminutive from σχολινός "rush, rope made from rushes", with which it is partly identical in meaning. The length of the ι is assured in Theocr. 23.51 τὰν λεπτὰν σχολινίδα, but it is just as clearly short in Nic., *Alex.* 625 χυλὸν ὑπὲρ λεπ-τῆς ὁμόνης ἢ σχολινίδι κύρτη.

φαρκίς: no known etymology. Cited as Sophoclean by Phot. 640.18 φαρμακίδα· τὴν ἐκ τοῦ γήρωσ (γένυος Phot.) ῥυτίδα. οὕτω Σοφοκλῆς, with φαρκίδα as Brunck's and L. Dindorf's correction after Hesych.

χειρίς: the relation, morphological and semantic, to χεῖρ "hand, hand and arm" resembles that of κνημίς to κνήμη. The length of the ι, even though not cited by Herodian, is abundantly supported: ω 230 χειρῖδας τ' ἐπὶ χερσὶ, Clearchus, *fr.* 14 (C. Miller, *Fragm. Hist. Gr.*, v. II) χειρῖδας, Plutarch, *Otho* 6 χειρῖσιν, Lucian, *J. Tr.* 41 χειρῖδας, Galen 6.197 χειρῖδας.

ψαμαθῖς: name of a sea-fish, derived from ψάμαθος "sand". The length of the ι is assured by the meter in Numenius apud Ath. 7.327a ἄλλοτε καρχαρίην, ὅτε δὲ ῥόθιον ψαμαθῖδα.

ψηφῖς: related to ψῆφος somewhat as καλαμῖς to κάλαμος, being partly diminutive, partly identical in meaning with ψῆφος. The length of the ι is attested not only by Herodian but by several examples in the texts: Φ 260 ψηφῖδες ἄπασαι (at end of hexameter), Democr., fr. 164 Diels αἱ μὲν ἐπιμήκεις ψηφῖδες, Agathias Scholasticus, A. P. 11. 365 ὅς δὲ λαβὼν ψηφῖδας. Short ι however is shown by the accute accent in Lucian, D. Mar. 3.2 ταῦς ψηφύσιν.

* * *

It is now possible to make certain generalizations about the nouns listed and discussed in the foregoing portion of this article. All are feminine in so far as the gender is shown by concord of article or adjective or mentioned by Herodian, except that naturally compound adjectives like ἐυκνήμιδες may stand in agreement with nouns of any gender. All (except Βενδῖς) are oxytone, with ι circumflexed before a short case-ending, though in compounds the accent is recessive (κνημῖς, nom. pl. κνημῖδες, but ἐυκνήμις, ἐυκνήμιδες). About 20 out of 34 have very transparent etymologies as derivatives of stems in -ο-, -ᾱ/η- or consonant stems (κανονῖς: κανών, χειρῖς: χεῖρ), and in some cases they are diminutives in relation to their primary forms, or are partly identical with them (e.g., βατραχῖς, καλαμῖς, κανονῖς, κρηνῖς, νησῖς, κεραμῖς, πλοκαμῖς, πυργῖς, ῥαφανῖς, στηλῖς, σχολινῖς, ψηφῖς). νεβρῖς "fawnskin garment" designates material made from the animal designated by the primary form, though some of the passages with this sense have the form with short ι, as does also βατραχῖς in the sense "frog-green garment". κνημῖς and χειρῖς are names of articles to be worn on the shin and hand respectively. A few are names of animate beings, or so at least in some of their meanings: ἄλεκτορῖς, βατραχῖς, δορκαλῖς, καρῖς, μαινῖς, ψαμαθῖς.

None has an abstract sense like that of ἐλπίς "hope, expectation", φροντίς "thought, reflection" and some other nouns of the type in -υδ- with short υ. But there is also another restriction connected with these nouns in -υδ-, a restriction of prosodic nature: twenty-four of them are disyllabic in the nominative singular and have a penultimate syllable long either by nature or by position. Eight of the remaining ten are trisyllabic with penult and antepenult both short. Only ἀλεκτορύς υ-υ-υ and δορυκαλὺς υ-υ- (and possibly βατραχὺς if we decline to admit correptio Attica and scan the first syllable long) furnish examples failing to conform to these spondaic or anapaestic scansion, and these occur only once each in iambic passages of Herodas, while for both words there are several examples with the short -υδ-stem, some of them with metrical as well as orthographic support. The association of the type in -υδ- with the length of the penultimate syllable was noticed by Herodian, and in more recent times by Kühner-Blass, I, p. 481, and by Chantraine, *Formation des noms en grec ancien*, p. 347, but no one, so far as I know, has offered an explanation of this association. If the converse were also true -- that is, if nouns in -υδ- with short instead of long υ never had a long but always a short penult -- the relation between metrical form and choice of -υδ- or -υδ- would be even more striking than it is, but such is not the case, so greatly has the short υ type gained at the expense of the unproductive long υ type, and nouns like ἀσπύς, ἀσπύδος; αἰγύς, αἰγύδος; κερκύς, κερκύδος are very plentiful. Yet even so the almost total restriction of stems in -υδ- to two metrical types is impressive. It is strongly reminiscent of the conditions which call for -iy- (and corresponding positional variants of the other resonants) under the rules formulated by E. Sievers and further developed by F. Edgerton. According to the Sievers-Edgerton rule, y appeared in PIE between consonant and vowel if the consonant was preceded by a short vowel, but -iy- appeared in the same position if the consonant was preceded by a long vowel or by another consonant. There is some evidence that the same allophone -iy- also appeared between consonant and vowel if the consonant was preceded by a sequence of two

short syllables, and this evidence, which is mainly Germanic, is briefly presented by W. Krause (1953:101)² and discussed by W. Winter (1955: 530-2). The adherence of Greek nouns of anapaestic form to the long *υ* type is not nearly so strong as that of some nouns of the spondaic type. Only βλεφαρίς, καλαμῖς, κεραμῖς, πλοκαμῖς, and ῥαφανῖς have the support of Herodian for long *υ*, and most, with the exception of ῥαφανῖς, show long *υ* in only a minority of instances in the texts and in some of these quite obviously for the purpose of avoiding a sequence of three short syllables in dactylic verse. But the point is that forms of these trisyllabic nouns with long *υ* would not be likely to occur through poetic license alone if they had no other basis, for there appear to be no such cases of license with words like ψαλῖς, κοπίς, στροφῖς.

One objection to the application of the Sievers-Edgerton rule to forms of the type of κνημῖς, etc., will have come to mind instantly: the rule applies to alternation of *y* and *iy* when preceded by a consonant and followed by a vowel, but in our forms κνημῖς, κνημῖδος; σφραγῖς, σφραγῖδος, etc., the *υ* is followed by a consonant and not by a vowel. The rule might be made to work, however, if there was an earlier chronological stage at which a consonant did not stand after the *iy*. The -δ- may then be accounted for in one of two ways: either it was extended analogically from some class of already existing *d*-stems, or else it arose through some sort of phonological change, in either case without disturbing the restriction of the type with long *υ* to nouns of spondaic and anapaestic pattern. Benjamin Ide Wheeler, *PAPA*, XXIV (1893), pp. li-liii, argued in favor of a phonological origin for the δ; he pointed out the lack of productive *d*-suffixes in all IE languages except Greek, the resemblance of nouns of the type of κνημῖς to Vedic nouns of the type of *naptis* "granddaughter", *rathis* "charioteer", which, in contrast to nouns of the type of *devi*, do not show a paradigmatic

²Gothic *mikileiþ* and *ragineis* behave like *sokeiþ* and *hatrdeis*, evidently on the basis of syllable division **miki-li-(j)iþ* and **ragi-ni-(j)is*.

ablaut-variation of \bar{i} with $y\bar{a}$, and he called attention to the fact that in Greek y is converted into the dental stop t in the presence of a labial in forms like $\chiαλέπτω$, $ἀστράπτω$, $πτύω$. However, while he did mention the existence of long υ formations such as $\kappa\eta\mu\bar{\upsilon}\delta\alpha\varsigma$, $\psi\eta\phi\bar{\upsilon}\delta\alpha\varsigma$, $\acute{\alpha}\psi\bar{\upsilon}\sigma\upsilon$, he did not mention their special association with a long penult or sequence of short antepenult and penult. Buck, *Reverse Index*, p. 416, says: "That it (that is, the δ) is a purely phonetic development, as Curtius, Mahlow, and lastly Wheeler, is incredible". Yet the conversion of y to a dental stop, or in other words the development of an occlusion where previously no occlusion had existed, is known not only in several other IE languages, but, under certain conditions, in Greek. In addition to the forms $\chiαλέπτω$, etc., cited by Wheeler, where y became τ after a labial stop, the appearance of ς in $\varsigma\upsilon\gamma\acute{o}\nu$, $\varsigma\acute{\omega}\nu\eta$, etc., where cognate forms in other languages have y , is an instance of the appearance of an occlusive feature, regardless of which of the various theories one adopts in order to account for the treatment of initial y in Greek sometimes as spiritus asper and sometimes as ς . An additional argument in favor of a phonological origin for δ in the stems in $-\bar{\upsilon}\delta-$ and $-\bar{\upsilon}\delta-$ is the strongly contrasting scarcity of stems in $-\bar{\upsilon}\delta-$ and $-\bar{\upsilon}\delta-$. Buck, *Reverse Index*, p. 435, has 13 examples with $-\bar{\upsilon}\delta-$ (compounds not counted separately), one, $\beta\lambda\alpha\bar{\upsilon}\delta\epsilon\varsigma$, with a diphthong before the δ , and one lone example, $\delta\bar{\alpha}\gamma\bar{\upsilon}\delta\omicron\varsigma$ "wax doll" attested in Erinna and Theocritus, etymology unknown, with $-\bar{\upsilon}\delta-$. If the δ after υ were the result of an analogical spread, we might expect it to have spread more extensively into nouns with nominative singular in $-\bar{\upsilon}\varsigma$ and $-\bar{\upsilon}\varsigma$ as well, since in IE languages the \check{i} - and \check{u} -stems, and also the \bar{i} - and \bar{u} -stems, tend to have a closely parallel history. On the other hand, the articulation of u/\bar{u} in the same phonetic surroundings would not produce a dental stop, because of the lowering of the tongue. It is advisable at this point to set up a formula showing the development of the semi-vowel $y/\bar{i}y$ in what are known as the post-light and the post-heavy positions in contemporary discussions of the Sievers-Edgerton rule. Since, according to widely held views, the suffix $\bar{i}/y\bar{a}$ of feminine derivatives

contained a reflex of a laryngeal, the laryngeal is here shown in the earliest stages of the reconstructed forms. For our purpose the color or timbre of the laryngeal is not important, though it is to be assumed that it was the second or *a*-colored laryngeal \mathfrak{z}_2 . All case-forms of the noun paradigm in question had endings originally beginning with or consisting of: (1) a consonant (nom. sg. $-\mathfrak{s}$, dat. pl. $-\mathfrak{s}i$); (2) a vowel (gen. sg. $-\mathfrak{o}\mathfrak{s}$, all the dual forms, nom. pl. $-\mathfrak{e}\mathfrak{s}$, gen. pl. $-\mathfrak{o}m > \text{Gk. } -\omega\nu$); (3) a semivowel (dat. sg. $-\mathfrak{i}$, acc. sg. $-\mathfrak{m}/m$, acc. pl. $-\mathfrak{n}\mathfrak{s}/n\mathfrak{s}$). The accusative singular ending could be regarded as having been consonantal $[\mathfrak{m}]$ if followed without pause by a word beginning with a vowel but vocalic $[\mathfrak{m}]$ if followed without pause by a word beginning with a consonant. Greek and Sanskrit provide some support for such a distribution, however much the original distribution of the forms was rearranged in the recorded stages of those languages: Skt. *devīm* but *nadīam* (with $-\mathfrak{m}$ analogically added to $-\mathfrak{a} < -\mathfrak{m}$); Gk. ἰχθῦν but occasionally ἰχθύα, ὄφρῦν but also ὄφρύα; also the rare optative first sg. forms τρέφουι, ἀμάρτουι, but Arcadian ἐξελαύνουα, both types however being almost entirely displaced by the morphological innovation τρέφοιμι, ἐξελαύνοιμι, etc.

The hypothesis offered here -- and it cannot be offered as anything more than a hypothesis -- is that a voiced dental stop developed in the accusative singular when the next word began with a consonant and the case-ending was $[\mathfrak{m}]$, and that this development occurred at a time when there was still, under the conditions of the Sievers-Edgerton rule, a quantitative difference in the semivocalic segment in post-light and post-heavy positions.

(post-light) $-\check{V}C-\gamma\mathfrak{z}-\mathfrak{m} > -\check{V}C-i\gamma-\mathfrak{m} > -\check{V}C-\mathfrak{c}\delta\alpha$ (e.g., κοπέδα)

(post-heavy) $\begin{matrix} -\bar{V}C \\ -CC \end{matrix} \} -i\gamma\mathfrak{z}-\mathfrak{m} > \begin{matrix} -\bar{V}C \\ -CC \end{matrix} \} -\bar{\gamma}\gamma-\mathfrak{m} > \begin{matrix} -\bar{V}C \\ -CC \end{matrix} \} -\bar{\mathfrak{c}}\delta-\alpha$ (e.g., ψηφῦδα)

No other case-form provides an equally suitable environment for the change. Before an initial vowel the accusative would be consonantal $-m$, not vocalic $-m̥$, and the $-(i)y_{\bar{a}}-m$ would have become $-\bar{i}m$, just as $-(i)y_{\bar{a}}-s$ became $-\bar{i}s$ in the nominative. Before vocalic case-endings (gen. sg. $-os$, nom. pl. $-es$, etc.) the laryngeal would simply have disappeared, leaving $-(i)y-os$ etc. It is suggested here that in the accusative singular before consonantal initial the laryngeal preceding the $-m̥$, instead of disappearing as before a full-grade vowel, was assimilated to the preceding y , and that the resulting (post-light) $-iym̥$ and (post-heavy) $-\bar{i}ym̥$ became respectively $-\acute{\iota}\delta\alpha$ and $-\bar{\iota}\delta\alpha$. The final $-m̥$ provides the labial environment which, in Wheeler's view, favored the development of y to a dental, and the accusative singular is an important enough form to be the source from which $-\acute{\iota}\delta-$ or $-\bar{\iota}\delta-$ could spread through the paradigm.

Why the type in $-\acute{\iota}\varsigma$, $-\acute{\iota}\delta o\varsigma$ became the productive type and even absorbed many of the nouns with long penult is not easy to explain, and I have not searched for reasons, but the existence of numerous non-dental short υ -stems like $\pi\acute{o}\lambda\upsilon\varsigma$, and also of dental stems with short α like $\delta\epsilon\kappa\acute{\alpha}\varsigma$, $\phi\upsilon\gamma\acute{\alpha}\varsigma$ may have been a factor, even though these nouns are not similar either in origin or in semantic value.

The relation of stems in $-\acute{\iota}\delta-$ and $-\bar{\iota}\delta-$ to dialects has so far not been mentioned in this paper, apart from the Herodian passage, but it is too important to be ignored. When Herodian speaks of certain nouns as having the υ long in Ionic and in the Koinē we may infer that in this as in certain other aspects the Koinē preserved an Ionic rather than an Attic feature. When we turn to other dialects, such as those of the Aeolic and Doric groups, it is difficult to get any adequate data. Inscriptions, which almost alone give really faithful evidence of local dialect features, show no marks of accent and are nearly always in prose. Metrical inscriptions and literary dialect texts are unreliable, since they contain many forms established in poetic tradition and not necessarily representative of the local dialect. Yet there are a few hints that the absorption of the long υ type by the short υ type

had reached a more advanced stage in Aeolic and Doric than in Attic and Ionic. Among forms serving as evidence may be mentioned κνημῖδες in Alcaeus 54.4 Diehl; the dialectal forms κουρῖς and κωρῖς cited above under καρῖς; and finally the accusative form σφραγγυν cited as Aeolic by Choeroboscus, though here we apparently have a form which was either inflected without δ after the analogy of the ι-stems or else never had developed the δ in the first place. How long the distinction of the two types survived into Roman times is hard to say, but it certainly could not have been preserved in spoken Greek after phonemic distinction of quantity on the one hand and distinction of acute and circumflex intonation on the other had been lost, as they have been lost in Modern Greek. Schwyzer, pp. 392-4, presents evidence for confusion of vowel quantity in the writing of uneducated persons as early as the 3rd century B.C. and for confusion of acute and circumflex accent as early as the 4th century B.C. or even earlier, at least in the pronunciation of the actor whom Aristophanes, *Ran.* 304 after Eur., *Or.* 279, ridiculed for saying γαλῆν ὀρῶ when he should have said γαλῆν' ὀρῶ though the very fact that he was ridiculed shows that the distinction was still observed in standard speech. Perhaps even as late as Herodian's time careful speakers were still observing the proper prosodic distinctions in, for example, ἀσπίδα and κνημῖδα.

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"SPIDER" AND "MOLE" IN HITTITE

JAAN PUHVEL
University of California, Los Angeles

The trilingual vocabulary passage *KBo* I 44 + XIII 1 I 49-51 reads as follows in the Sumerian, Akkadian, and Hittite columns:¹

49. [G]U.ŠAKÁN?	QÚ-U D ² SUMU[QAN]	D ² SUMUQAN-aš <i>ha-an-za-na-aš</i>
50. [G]U.ZI	QÚ-U ET-T[Ú-TI]	a-u-wa-wa-aš <i>ha-an-za-na-aš</i>
51. [...].DIŠ	QÚ-U NU-NA-[TI]	<i>ha-aš-mu-ša-al-li-ya-aš</i> <i>ga-pa-an-za</i>

Akkadian *qū(m)* means either "hemp, string, thread" or denotes some metallic container (of bronze ?), but chances are that only the first of those homophones is treated in this passage, Akkadian being the semantic basis of the dictionary. Because GU.ŠAKÁN conveys the sense of "strand of sheep wool" and Akk. *qū ettuti* means "spider's web, cobweb", it would seem that Hitt. *hanzanaš* should also mean "thread, yarn", of a deity of the Telipinus circle and of an *awawa-* respectively (both in the genitive), and that accordingly *awawa-* ought to be "spider". In line 51 the Akkadian may show a form of *nunnu*, a loanword from Sumerian denoting some copper implement, and Hittite has *hašmušalli-*, which is a hapax legomenon; but I would disagree with Otten and Von Soden (1968:16) that the metallic Akk. *qū* is more probable here. Rather than endorsing

¹Cf. the edition by H. Otten and W. von Soden in *Studien zu den Boğazköy-Texten* 7 (Wiesbaden, 1968), 11.

their connection of *gapanza* with *kappi-* "small" (where both *ga-* and *-p-* diverge in spelling), one might seek a tie-in of *gapanza* with *gapina-/kapina-* "thread, yarn", thus a near-synonym of *hanzana-*, whether *gapant-* be an erroneously collapsed spelling for **gapinant-* or a derivational variant.

However, since 1953² *hanzana-* has been rendered as "black",³ and the helpful Bojan Čop, ever ready with an etymology, has compared it with Gk. ἄσπες (< **h₂si-*) "mud, filth" and Skt. *ásita-* "dark, black".⁴ The grounds for this identification would at first glance seem cogent, since the sense is extracted from strings of color adjectives describing wool and taking in five "canonic" hues:

HT 1 II 20-21 = KUB IX 31 II 46-47: SÍG ZA.GÌN SÍG SA₅ SÍG SIG₇. SIG₇ SÍG GE₆ SÍG BABBAR-*ya* "blue wool, red wool, yellow wool, black wool, and white wool".

KUB VII 54 II 17-18: SÍG SA₅-*ma-wa* SÍG ZA.GÌN SÍG GE₆ SÍG HAZERTI SÍG BABBAR-*ya* "red wool, blue wool, black wool, green (= yellow) wool, and white wool".

For all of these sumerograms we have Hittite equivalents, some with plausible Indo-European etymologies:

Blue: ZA.GÌN = *andara-* < **amdra-* < **m̥d(h)ro-* (cf. Slavic **modrъ*, Czech *modrý* "blue").

Red: SA₅ = *mida-*, *midi-* (cf. Gk. μύλος, Lat. *minium* "red ochre", with *d : l : n* variation of "Mediterranean" origin).

Yellow(-green): SIG₇(.SIG₇) = HAZERTI = *hahlawant-*.

Black: GE₆ = *dankui-* < **dhngw-* (cf. Old Norse *dǫkk*, German *dunkel* "dark").

²E. Laroche, *Revue d'assyriologie* 47, p. 41.

³Already A. Goetze, *Journal of Cuneiform Studies* 1 (1947), 312, saw in it a color adjective.

⁴*Linguistica* 10 (Ljubljana, 1970), 95-96.

White: BABBAR = *ḫarki-* (cf. Gk. ἀργός "bright, white") or *ašara-*, *ešara-* < **esra-* < **aysro-* (cf. OCS. *jasno* < *[j]ěsnv < **ays(k)no-*; cf. *iskra* "spark", Lith. *aiškus*, *iškùs* "clear").

Now in a couple of "wooly" contexts we find, in the exclusionary slot for GE₆, the form *ḫa-an-za-na-aš* rather than the expected *dankui-*:

KUB XXIX 4 I 31: *síg SA₅ síg ZA.GÌN síg ḫanzanaš síg SIG₇.SIG₇ síg BABBAR danzi* "red wool, blue wool, *ḫanzana-* wool(s), yellow wool, white wool they take".

Ibid. 32-33: *nu namma síg ZA.GÌN síg SA₅ síg ḫanzanaš síg SIG₇.SIG₇ síg BABBAR-ya danzi* "and also blue wool, red wool, *ḫanzana-* wool(s), yellow wool, and white wool they take".

KUB XXIX 8 I 33-34: *síg SA₅ síg ZA.GÌN síg ḫanzanaš síg SIG₇.SIG₇* "red wool, blue wool, *ḫanzana-* wool(s), yellow wool".

It is of course tempting to posit here GE₆ = *ḫanzana-*, and elsewhere one can find close proximities of *ḫanzana-* with "white" which may point to antonymy: KBo VIII 95 Vs. 8 (fragmentary) GAD.DAM *ḫanzana[-* besides *ibidem* 7 GAD.DAM BABBAR (describing an article of clothing); KBo X 37 I 39-40 *ašaran ... [...].GIM-an ḫanzanaš [... -]az arḫa tuḫšan-* [za "white ... as the *ḫanzanaš* from (or: by means of) ... (is) cut off".

But such an interpretation is hardly compelling. Rarely are all five colors listed ("white" is missing even in KUB XXIV 8 I 33-34 just quoted), and shorter lists abound (e.g., KUB XVII 8 IV 4 "red, black, yellow"; KUB VII 29, 7-8 "yellow, red, blue"; KBo IV 2 I 63-64 *ašaraš mitiēš paddani-ššan kue kitta* "white [and] red [strands of wool] which lie in the basket"; VBoT 24 I 23 *síg āntaran síg midann-a* "blue wool and red wool"). Considering expressions such as (KUB XXIV 9 I 43) *síg* (= *hulanan*) *antarantan kapinan QATAMMA iyazi* "she makes likewise blue wool into thread", one may compare the corresponding plural in paragraph 126 of the Law Code (KBo VI 10 II 15-16 *takku gapīnuš ŠA 1 TÚG kuiški tāyezzi* "if anyone steals the yarns for a garment") and translate *síg₇ ḫanzanaš* (rather than *síg ḫanzanaš*) as acc. or nom. pl.

"strands" of the previously mentioned blue and red wool in the passages quoted.⁵ Altogether it seems that Akk. *qū ettuti* and Hitt. *awawaš* *hanzanaš* as "cobweb" are well matched, and that *awawa-* definitely means "spider".

Apart from the man's name ^I*A-wa-u-wa-a* (KBo XV 28 Vs. 2), other attestations have the spelling *a-u-wa-u-wa-* and occur in descriptions of rhyta:

Bo 2583 II 8-9: *BIBRA* GUŠKIN-*ya-šmaš* *awawawaš* KAŠ-it *šūwandan* *piran pe* *harkanzi* "they hand them a gold rhyton *awawawaš*, filled with beer".

KBo XVI 100, 4-7:]*n-an* IŠTU *BIBRI* *awawawā[it]* [...] EGIR-ŠU-*ma* ^D*ḫwaššannan* ^DUT[U-un] [...] *awawawāit-pat* TUŠ-aš *ekuzi* *n[-an]* [...]]*āḫui* *nu* EGIR-ŠU ŠA GUD *BIBR[A* "her (?) from a rhyton *awawawāit* ..., and again the goddess H. (and) the solar deity ... *awawawāit* he toasts (in) sitting (position), ... he pours, and again a rhyton of bovine (design) ...".

KBo XVI 101, 2: *aw]awawaš*; *ibid.* 6:]GUŠKIN *awawawan*.

Since we are in the domain of theriomorphic designs, it is not to be ruled out that parallel to the bovine type (ŠA GUD) there may have been a line of goldware described as "spiderware", whether from spindly shapes or decorative motifs; *awawawaš* (qualitative genitive) and *awawawāit* (instrumental case) would thus mean "of arachnoid shape" or "with arachnoid decoration".

awa(u)wa- is plausibly a (Luwoid) phonetic variant of *akuwakuwa-*, on the lines of *lala(k)ueša-* "ant" or *tar(k)uwai-* "dance".⁶ *akuwakuwa-* has been rendered for half a century as "frog, toad",⁷ mainly with ref-

⁵This newly established noun *hanzana-* "thread, yarn, strand" may have some connection with ^{GI}*šhanza* (in a list of wooden objects, KUB VII 13 Vs. 6), dat.-loc. sg. ^{GI}*šhanzani* (KUB XXXIV 78, 7, fragmentary; in paragraph 144 of the Law Code [KBo VI 10 III 11] ^{GI}*šhanzan[i]* figures in the context of a garment being cut [*tuhšari*]).

⁶Cf., e.g., G. Neumann, *IF* 76 (1971), 261; J. Puhvel, *JAOS* 94 (1974), 294-95.

⁷E. Forrer apud P. Kretschmer, *Kleinasiatische Forschungen* 1 (1929),

erence to onomatopoeic terms in other languages such as the Greek frog-cry κροῖ or Latin *coaxō* "croak". A. Kammenhuber's "toad" or "mole"⁸ is no improvement, and J. Tischler's argument⁹ that the creature had to make some characteristic sound to rate such a name is contradicted by, e.g., *lala(k)ueša-*. G. Neumann's comparison¹⁰ of *akuwakuwa-* with Hesychius's βάβακος • ὑπὸ 'Ηλεῦων τέττιγες; ὑπὸ Ποντικῶν δὲ βάτραχοι is phonetically even more apposite for *auwauwa-*; but "cicada" and "frog" are semantically far enough apart to admit a third alternative of random reduplicative onomatopoeia (nor is any chirping or croaking required, any more than an ant had to say *la-lak-*).

akuwakuwa- is known for its *ḫatteššar* "hole, lair", seen in *Bo* 2738 I 7-8 *akuwakuwaš ḫattešni*, with duplicate *Bo* 7230, 7 *]akukuwa<š> ḫa[t-*. There is also the seeming haplographic *akuwaš* in *Bo* 2738 I 17 *akuwaš AMA-aš GUD-uš*, paralleling a preceding passus preserved in the duplicate *Bo* 2499 I 3 *lalawēšnaš* ("swarm of ants") *AMA-aš GUD-uš*.¹¹ The association with ants points to an insect, and the "lair" agrees with the underground habitation patterns of certain spectacular mygalomorph spiders such as tarantulas. We can therefore with some confidence posit the common denominational formula *a(k)uwa(k)uwa-* as the Hittite word for "spider".

Another tiny animal, of ominous import, bears the Hittite name *ašku-*:

795/c Rs. 1-2: *aškuš uizzi* [...] *aki* "(if) an *aškuš* comes, (so-and-so) will die".¹²

KUB XXXIV 22 I 5-6: takkuw-ašta aškuēš ^{GIŠ}PISAN-az [*watkuanzi*] *SAG.GEME.İR.MEŠ-kan maušk[anzi* "if *aškuēš* (nom. pl.) jump from a wooden

310; C. H. Carruthers, *Language* 6 (1930), 160.

⁸*Hethitisches Wörterbuch* (Heidelberg, 1975), 54.

⁹*Hethitisches etymologisches Glossar* (Innsbruck, 1977), 12.

¹⁰*Untersuchungen zum Weiterleben hethitischen und luwischen Sprachgutes in hellenistischer und römischer Zeit* (Wiesbaden, 1961), 82.

¹¹Cf. H. Otten, *Zeitschrift für Assyriologie* 66 (1976), 94-5.

¹²Cf. H. Otten, *op. cit.*, in fn. 1, p. 31.

drain, servants will fall".

Ibid. 7-9: takkuw-ašta āškuēš ŠAPAL GIŠ^{GU.Z}[A parā] watkuwanzi nu apāt GIŠ^{SU.A} [...] arḫa pippattari "if āškuēš jump forth from under a throne, that seat will be overturned".

Ibid. 2-3: n-ašta āšk[uēš ...] parā ḫanti watkuanz[i "āškuēš jump forth separately".

J. Friedrich¹³ saw in *ašku-* either a noxious insect or some kind of mouse, and H. A. Hoffner¹⁴ added as creepy-jerky possibilities grasshopper, lizard, frog, and toad. Clearly the uniform portentousness of the creature points to exceptionally sinister characteristics. Some "death beetle" is conceivable, but most probable is "mole", i.e., the blind, chthonian permutation of the mouse whose daylight emergence would be ominous and whose subterranean burrowings were literally conducive to collapse and downfall.¹⁵ If so, the Hittite view of the mole chimes with the Roman one and is at variance with the beneficent, folk-medical traits of the mole found in, e.g., Greek and Indic lore.¹⁶ The word *ašku-* may then be related to the (further derived or compounded?) Gk. (ἀ)σκάλοψ > (metathetic) ἀσπάλαξ "mole", Ἀσκληπιός (mole-god), ἀσκάλαβος "gecko". The *u*-stem *ašku-* is also reminiscent of Skt. *ākhū-* "mole", the explanation of which via *ā* + *khā-/khan-* "dig" leaves a lot to be desired.

We thus have vaguely cognate terms for "mole" stretching from India via Anatolia to Greece (vs. Latin *talpa*), and broadly similar words for "spider" reaching from Anatolia (*akuwakuwa-*) to Greece (Mycenaean *a-wa-ra-ka-na*, Gk. ἀράχνη) to Italy (Lat. *arānea*).

¹³*Bibliotheca Orientalis* 5 (1948), 50; *Hethitisches Wörterbuch* (Heidelberg, 1952), 36.

¹⁴*Alimenta Hethaeorum* (New Haven, 1974), 91-92.

¹⁵Cf., e.g., Pliny's account of a town in Thessaly undermined by moles (*Natural History* 8.104).

¹⁶Cf., e.g., J. Puhvel in W. D. Hand (ed.), *American Folk Medicine: A Symposium* (Berkeley and Los Angeles, 1976), 33-34; *Pharos* 39 (1976), 21.

ERGATIVITY IN INDO-EUROPEAN*

WILLIAM R. SCHMALSTIEG
Pennsylvania State University

This paper will present a brief speculative sketch of the manner in which Indo-European passed from an ergative type language to a nominative-accusative type language. The speculations required are surely no more extraordinary than would be for the creation of a language resembling Latin from the attested Romance languages. What is speculative and what is not speculative is merely a matter of taste, background, and the current climate of opinion. For structuralists, generative grammar is speculative; for the older generation of Indo-Europeanists, the laryngeal theory was speculative, and so on. For A. Pott (1870:18), Grassmann's Law appears to have been extremely speculative, and he wrote of the "...geheimen schauder, welcher meine adern durchrieselt beim anblick so gespenstischer gestalten...wie bei Schleicher, Compendium §. 125 bandh (binden) für *bhandh, griech. penth für *phenth..." Thus one man's speculation is another man's credo and the term *speculation* essentially means something like "not according to what I prefer".

To me, for example, it seems highly speculative to assume that the notions of *subject*, *object*, *active voice*, *passive voice* exist in the "deep structure" (whatever that latter term may mean) of all the languages of the world. One may of course assume anything if one can then

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merely devise a satisfactory set of rules to delete categories which do not happen to exist in the "surface structure" of the language under study.

In our ethnocentric approach to the study of language, we have usually assumed that it was always necessary to mark either syntactically or morphologically the distinction between the subject and the object of the verbal notion. That this is not necessary can be seen from the situation in Lisu. Note the following example from Li and Thompson (1976:472):

làthyu	nya	ánà	khù	-	a
people	topic marker	dog	bite		declarative marker

According to Li and Thompson, this sentence is quite ambiguous as far as agency is concerned. It could mean either "people bite dogs" or "dogs bite people". However, according to Li and Thompson (1976:473), "...this total disregard for agency or subjecthood in the structure of the language does not impair its communicative function, as much as might be expected". Note the following example from Avar given by Černý (1971:49):

Sajpula	čocca (instr.)	wačana
Saifullah	on horse back	came riding

The latter example, according to Černý, could be translated either as "Saifullah came riding on horseback" or "the horse brought Saifullah".

One could argue that such languages as Lisu and Avar are typologically rare, but this is to make the mistake of all the social scientists who believe that the range of the existing exhausts the range of the possible. Such languages may be typologically rare today, but how do we know that they were typologically rare 10,000 years ago, or that they will be rare 10,000 years hence? The existence of populations speaking certain languages seems to depend more on historical accidents

such as wars, plagues, earthquakes, fires, and floods than the features of languages themselves. Is Tocharian typologically less important than English since the former is a dead language, whereas the latter is represented by millions of speakers? Why is the number of languages exhibiting a certain feature more important than the number of speakers of the same language? Comrie (1978:393) writes that the availability of a description of Dyrbal syntax "...has revolutionized our view of ergativity, since for the first time it has become apparent that there is a language with near-consistent syntactic ergativity..." Let us suppose, however, that the Dyrbal population had disappeared without a trace and notions of ergativity would have been unhampered by unwelcome new facts. But maybe even other languages could exist which would require us to repair even further whatever syntactic theories we may now produce.

I propose then that the earliest form of the Indo-European verb was more or less similar to a noun and completely without diathesis. This is the form of the verb which finally came to be represented by the perfect tenses and/or the middle voice. In such forms, there was no concord between the (nominative) subject and the (perfect/middle) verb. Evidence of this lack of concord is furnished by the existence of such essentially endless perfects as the Skt. 1st and 3rd sg. (active) *dāddu* "gave", *jajñāu* "knew", (middle) *dādē*. Cf. also the Goth. 1st and 3rd sg. preterite *saísō* "sowed", *waíwō* "blew", OHG. *teta* "did", Gk. (1st sg.) *ἔσται-κα*, (3rd sg.) *ἔσται-κε* (if these derive from **ἔσται-*). (See Thumb-Hauschild 1959:201; Hirt 1904/5:66.) The personal concord in the perfect and middle voices of the attested Indo-European languages developed only later under the influence of the new encroaching present/aorist system.

At the earliest period of Indo-European then, the verb (close to a noun in form) had no diathesis. It could be used with the definite pronoun **-to* to denote some kind of completed action. Nouns used in phrases with this verb could be suffixed with various definite pronouns which had been anaphoric at an earlier stage. One such pronoun was **-e/o* "which, he, it". Thus Brugmann (1904:401) writes:

*o- 'der, er': Gen. Sg. ai. *a-syá* got. *i-s* ahd. *e-s*. F. *ā-: ai. Dat.-Abl. *ā-bhyás*... Hierzu *e-* in ai. *a-sāu* 'jener' *á-ha* 'gewiss, ja', gr. *ἐ-κεῖ* osk. *e-ko-*, gr. *ἐ-χθές*, lat. *e-quidem* osk. *e-tanto* 'tanta', aksl. *je-vo* 'ecce' *jedno* '1'.

In addition to this pronoun, which was the simple thematic vowel, I propose the pronouns (or particles) *-(e/o-)y and *-(e/o-)m (which had benefactive meaning) and *-(e/o-)s (which had agentive meaning). Gradually these came to be attached to the stem of the preceding word. Sentences were of the type:

- | | | | |
|-----|----------------|-------------------|------------------------|
| (1) | *bhṛ-tó | patr-ós | wīr-om |
| | (the) carrying | of, by the father | for the benefit of man |

We could translate this either as "the father is (was) carrying the man" or "the man is (was) being carried by the father". Essentially the sentence had no diathesis, and we can give two English translations only by virtue of the fact that English does have diathesis. The structure of the sentence is similar to the structure of the Avar sentence given above.

There were also sentences of the type:

- | | | | |
|-----|----------------|-------------------|----------|
| (2) | *bhṛ-tó | patr-ós | dōr-o |
| | (the) carrying | of, by the father | the gift |

(Note Balto-Slavic *-o for the older neuter, e.g., Lith. *gẽr-a* "good", Slavic *měst-o* "place", replaced by *-om in most languages. Hittite *tannatta* vs. *tannattan* is open to dispute [see Kronasser 1956:107].)

A sentence such as (2) could be translated either as "the father is (was) carrying the gift" or "the gift is (was) carried by the father". Again the possibility of a difference in translation arises only from the fact that English has diathesis. The existence of such sentences as (2) is confirmed by modern Lithuanian in which we find, e.g.:

(2a)	<i>piemeñs</i> (gen. sg.)	<i>dúonos</i> (gen. sg.)	<i>dúo-ta</i> (now felt as neuter parti- ciple)
	by the shepherd	some bread	was given

That is, "the shepherd gave some bread". The gen. sg. *piemeñs* "(by the) shepherd" functions as the agent and the gen. sg. *dúonos* "(some) bread" functions as the partitive object. To the modern Lithuanian, *dúota* seems to be a neuter participle, but there is no reason not to connect *-ta* with the 3rd sg. middle aor. ending of Skt. (*a-di-*)*ta* and Gk. (*ἔ-δο-*)*το* "gave".

The ending **-to* is apparently related to the participles in **-to-s* (Watkins 1969:113-4) which can be used with a genitive agent, cf., e.g., Gk. *Διός-δοτος* "given by God", Skt. *pátyuh krītā* "brought by the spouse", Av. *a'winyixta sūnō* "eaten by a dog", Sl. **u-bitō (otv) Jaropolka* "killed by Jaropolk" (with later addition of *otv* [see Paternost and Schmalstieg 1977:146-9]). The use of the genitive agent with passive verbs is also known in Tocharian according to Krause-Thomas (1960:82), (B) *rṣākemtṣ lānte peṣpirttu pelaikneṣṣe cākkār* "das von dem König der Rṣis gedrehte Gesetzesrad". According to Klaus T. Schmidt (1974:252), the agent in Tocharian was expressed in the following way: "Die handelnde Person tritt in den Genitiv, gelegentlich auch in den Perlative ..., die wirkende Sache in Toch. A. in den Instrumental, in Toch. B., das keinen besonderen Instrumental besitzt, in den Perlative".

Note also Gothic (John 6, 45) *jah wairþand allai laisidai gudis* = Gk. καὶ ἔσονται πάντες διδασκτοὶ θεοῦ "and all will be taught by God", in which both Goth. *gudis* and Gk. θεοῦ "(of, by) God" are in the genitive case.

Although the use of the agent with the passive seems to be rare in the Indo-European languages, one should note Karl Horst Schmidt's warning to the effect that in studies of the Iliad, Plautus, and the Rig Veda, we have to do with poetic texts. According to Schmidt (1963:4):

Statistische Zahlen beweisen hier allerdings nicht allzuviel, da der vollständige passivische Ausdruckstypus nach den verschiedentlich angestellten Untersuchungen sowohl der einfachen, unkomplizierten Volkssprache als auch der dichterischen Sprache fremd ist.

Next I would draw a parallel with the development of Georgian. Anderson (1977:348-9) quotes Braithwaite (1973) to the effect that in Georgian the progressive tenses of the present series were originally structurally similar to the English progressive with non-finite participial form of the verb itself and a copula element. The verb phrase of such tenses would consist of a participle perhaps with a dative element representing the object noun phrase and the subject would always be structurally the subject of a fundamentally intransitive predication. A sentence such as *I am reading the book* would be structurally *I am at-reading (with respect to the book)*. If there were a general ergative morphological pattern, it would follow that subjects of such structures would appear in the absolutive (or nominative) case since structurally they would all be subjects of intransitives. The apparently accusative form of the object noun phrase would follow from the fact that these would be structurally oblique, similar to benefactives and other indirect object noun phrase types. Braithwaite notes, according to Anderson (1977:349), the tenses of the present series, differently from those of the aorist series, involve a stem-formative element, following the verb stem itself. This stem formative is also present in the existing non-finite forms of the verb and the pattern of verb agreement with objects in tenses of the present series is more like the treatment of indirect objects than like the treatment of direct objects of noun phrases in tenses of the aorist series. Note the following examples from the Bzhe-dukha dialect of West Circassian as quoted by Anderson (1976:21);

- A. (erg.) č'yaala-m č'əgʷ-ar ø-ya-z'wa
 boy-erg. field-abs. 3 sg.-3sg.-plows
 "the boy is plowing the field"

- B. ("acc.") č'yaala-r č'agw-əm maa-žwa
 boy-abs. field-obl. 3 sg.-plows
 "the boy is trying to plow the field" or "the
 boy is doing some plowing, in the field"

Anderson (1976:22) writes further:

These examples (which I owe to John Colarusso) are from the Bzhedukh dialect of West Circassian. There are numerous such pairs, and they differ systematically in the following way: the "accusative" form in each case indicates that the action is carried out less completely, less successfully, less conclusively, etc., or that the object is less completely, less directly, less permanently, etc. affected by the action.

As we have seen above, the Indo-European agentive $*(e/o-)s$ and the benefactives $*(e/o-)m$ and $*(e/o-)y$ were added first to stems which became nominal. At a later date, the same elements, which had been retained as pronouns, again became attached to stems which became thematic verbs and thematic nouns. I would draw the comparison here with Georgian in which the ergative suffix *-man*, deriving from an old pronoun, was added before the nominative suffix *-i*, which also derives from an old pronoun (see Klimov 1962). These later Indo-European pronouns were $*(e/o-)t$ (probably used with inanimate reference), $*(e/o-)s$ (probably used with animate reference), and $*(e/o/a-)y$ (probably used with animate [feminine] reference). In fact, the pronouns *-at* and *-aš* are even attested in Hittite. The pronoun $*(e/o-)m$ probably had inanimate reference also, but is absent in forms which turn up as verbs for the most part. The reason for this is undoubtedly the possible confusion with the 1st person verbal endings. Essentially the endings of the present/aorist system of the Indo-European verb can be divided into three categories: (A) the 1st person endings; (B) the 2nd person sg., dual, and pl., the 3rd person sg. and dual; and (C) the 3rd person plural. The pronouns with the final elements $*-s$, $*-t$, and $*-y$ make up the type (B) endings, i.e., those that interest me here. The distribution of the

type (B) endings was originally on quite a different principle from that which is attested.

The original identity of the verbal 2nd and 3rd sg. is preserved in some Hittite preterites, cf., e.g., *i-ya-at*, *ti-ya-at*, *tar-na-aš* (from *i-ya-(az-)zi* "he makes", *ti-ya-(az-)zi* "he takes his stand", and *tar-na-(a-)i* "he puts in"). (See Sturtevant 1951:159, 162-3; Schmalstieg 1977:72-3; Erhart 1970:58.) As Watkins (1962:105) writes:

It is perhaps possible finally that the classical Indo-European 2nd sg. ending *-s(i)* represents the old 3rd sg. form, ousted from 3rd sg. to 2nd sg. by the encroachment of a newer 3rd sg. *-t(i)*... The rigid paradigmatic structure for the three persons of the singular, *-m(i)*, *-s(i)*, *-t(i)*, belongs only to the latest period of Common Indo-European, and was completely achieved only after the separation of the dialects.

In general, as a marker of the animate gender, **-s* turned up in the 2nd person and **-t* as a marker of the inanimate turned up in the 3rd person, but there are some striking exceptions, e.g., Toch. A 2nd sg. *pälkäät*, 3rd sg. *pälkäš*. (See Adrados 1975:819.)

At a date following the existence of sentences of types (1) and (2) given above, there came to exist the following varieties of sentences:

- | | | | |
|-----|--|---------|-----------|
| (3) | <i>*kapot</i> | bhe/or- | -e/ot |
| | the head | carries | which, it |
| | I.e., the head is (in the state of) carrying | | |
| | | | |
| (4) | <i>*patér</i> | bhe/or- | -e/os |
| | the father | carries | who, he |
| | I.e., the father is (in the state of) carrying | | |
| | | | |
| (5) | <i>*māter</i> | bhe/or- | -ā |
| | the mother | carries | who, she |
| | I.e., the mother is (in the state of) carrying | | |

The stative forms represented in sentences (3), (4), and (5) then split into (stative) verbs and adjectives. The root vowel **-o-* is characteristic for the adjectives, which, when substantivized, came to be the **o-*stem and the **ā-*stem nouns. The root vowel **-e-* is characteristic of those forms which became verbal roots. An older undifferentiated form of the pronoun **-e* is characteristic of the form which became the thematic verbal imperative and the **o-*stem vocative singular. (This explains why in many Indo-European languages the **o-*stem nouns seem to have borrowed the plural [dual] ending **-oy* from the pronouns. In fact, the **o-*stem nouns had their origin in pronouns, so the appearance of a pronominal ending is to be expected.)

Note then the following kind of sentence with the subject in the absolute case as the subject of a stative intransitive verb. In addition, the object is in the benefactive (or dative) case because an intransitive verb cannot take a direct object.

(6a)	<i>*patér</i>	bher-es	wīr-om
	father	is in the state of carrying	in respect to the man
	(in the absolute case as subject of intransitive verb)	(stative-intrans- itive verb)	(in the benefactive or dative case as indirect object of intransitive verb)

Sentence (6a) is now reanalyzed as below:

(6b)	<i>*patér</i>	bher-es	wīr-om
	father	is carrying	the man
	(in the nominative case as the subject of a transitive progressive verb)	(progressive as- pect which be- comes the pres- ent tense and transitive voice)	(in the accusative case as the direct object of the pro- gressive present transitive verb)

In the shift from (6a) to (6b), three things were taking place at the same time in the reanalysis: (A) The old absolute case (**patér*

"father") was reanalyzed as a nominative case. (B) The old stative or intransitive verb (**bher-es* "is [in the state of] carrying") was reanalyzed as being of progressive aspect and transitive voice and becomes eventually the present tense. (C) The old indirect object (**w̃r-om* "[in respect to] the man") becomes the direct object. This furnishes the base for the split between the dative and the accusative cases. As Adrados (1975:499) points out, we feel that such an expression as *ire Roman* "to go to Rome" is quite different from *amare patrem* "to love the father" only because we have gotten used to the idea of an active-passive transformation. But, in my opinion, originally there was no difference between the use of the accusative case in the two Latin sentences. Both Latin phrases reflect the old indirect object use of the accusative case. As far as the tendency for an accusative to replace a dative is concerned, one might make note of Karl Horst Schmidt's comment (1963:5) that in German there is an increasing tendency to replace the dative with the accusative. Schmidt gives the example: *einem Kleider geben* > *einen bekleiden*.

Szemerényi (1970:308) has argued that the 1st sg. *-om* passed to *-ō* just as **mem*, **t(w)em* passed to **mē*, **t(w)ē*, etc. I accept wholeheartedly Szemerényi's opinion, but I think that this view has far more importance for Indo-European than its author seems to be willing to ascribe to it. I have set forth some of these consequences in an article in 1974 (pp. 194-5), where I propose that in general there was an alternation between **-om* and **-ō* in other morphological categories also. I propose here then that the word final **-om* was split into (dat. sg.) **-ō* and (acc. sg.) **-om* at the time when the intransitive stative verb came to function as a progressive tense and take a direct object, i.e., became intransitive. Thus the new accusative case in **-om*, as the direct object of an active transitive verb, came to contrast with the old dative case in **-ō*, cf., e.g., Lat. (*lup-*)*ō* "wolf".

In addition to the benefactive in **-m*, there was also a benefactive in **-y*, both of which are attested in the Tocharian oblique case, cf., e.g., Toch. B *aśiyai* "Nonne", *preśyai* "Zeit", *astareṃ* "rein", *swa-*

rem "süß", *lykaśkem* "klein, fein" (Krause-Thomas 1960:108-11). The Tocharian oblique seems to function where traditionally we find either the dative or the accusative in other Indo-European languages, e.g., as accusative in (A) *opyāc käl-*, (B) *epiyac käl-* "sich errinern an" or as a dative, e.g., *Bramñikte toyna weña* "Gott Brahman sprach zu ihnen" (Krause-Thomas 1960:80-1). Whether the Tocharian languages represent a situation prior to the split between the dative and the accusative or whether they represent a later merger of old dative and accusative is not clear to me.

The old **-y* element is represented in such **ā*-stem forms as Lith. (dat. sg.) *rañk-ai*, Slavic (dat. and loc. sg.) *rqčě* "(to the) hand", etc. The old **o*-stem forms representing **-oy* are, e.g., Old Lat. dat. sg. *Numasi-oi* "(for) Numasius", loc. sg. Slavic *grad-ě* "(in the) city", Lith. *nam-iẽ* "at home", Skt. *dev-é* "(in) God".

Mažiulis (1970:110) writes that the Lith. dat. sg. (*viľk-*)*uo* (with *-uo* from **-ō*) is the reliquary one. It is customary nowadays to derive the attested Lith. dat. sg. *viľk-ui* not from Indo-European **-ōy*, but rather from a contamination of *-u* (< *-uo* < **-ō*) and *-y*. I assume a similar contamination in the dat. sg. Gk. *λύκ-φ*, Av. *vəhrk-āi*, and Skt. *vṛk-āya* (perhaps with *-ya* on analogy with the gen. sg. *vṛk-as-ya*). (The Gk. dat. pl. *λύκ-ου-ς* represents the earlier benefactive form **-oy* plus the plural marker *-s*.)

Such contaminations as I have proposed for the Greek, Avestan, and Sanskrit dative singulars present no morphological surprises. One can compare, e.g., the Skt. 1st sg. pres. *bhāx-ā-mi*, which is a contamination of two forms of the 1st sg. ending. A monster dat. sg. form such as **-ōy* is possibly the simplest solution, because it is always easier to begin with morphophonemic monsters and perform deletions rather than to assume concatenations of minimorphemes which are not susceptible to our linguistic formalisms. Similarly, one can put as much information as one wants into the deep structure and then gradually remove it by rules by deletion. Now, it may be objected that the assumption of contaminations opens an enormous range of possibilities for consideration.

To this I would only reply that one must not reject a large number of possibilities merely because our feeble theoretical apparatus is unable to cope with them. We have no contract with God to the effect that language history took place in a manner which is simple for us to understand. Even if there were some unknown formalism for defining simplicity, there is no known reason why a simple explanation should be more correct than a complex one. (See Hempel 1966:41.)

To return, however, to the problem of the representation of **-om* in the dative, I would call attention to Goth. *þamma* (with expressive gemination), Lith. *t-am-ui* (representing **t-am-* with the later addition of the nominal ending *-ui*), Slavic *t-am-u* "(to) that" (from **t-am-am*, a definite form with passage of **-om* to **-o* and then sporadic denasalization to *-u*). Plural **o*-stem forms such as Lith. *diev-am-s*, Slavic *bog-am-o* "(to the) gods", Goth. *dag-am*, in which the old **-om-* did not stand in word final position, represent the original situation better than the singular datives.

The nominative case in **-s* then is not directly connected with the genitive in **(e/o)-s* except insofar as both the nominative singular and genitive singular may derive from the pronoun **(e/o)-s*. The genitive (= ergative) predates the nominative case. The nominative case in **-s* derives from the use of the pronoun **-os* (essentially the *-o-* variant of the ending **-es* which furnishes the 2nd sg. of the thematic verb) in sentences such as (4) above, in the form **patér bhor-os* "father (is) carrying (he)". As a stative verb with an almost participial meaning, it was open to becoming a noun by way of substantivization. The etymological **-os* is represented in Hittite by the pronoun *-aš* in such verbal forms as 3rd sg. pret. *tar-na-aš* "(he) put", adjectives such as *ir-ma-al-aš* "sick", and nouns such as *an-tu-uh-ša-aš* "man". A slightly similar situation is to be found in Russian, where the same form has furnished the verbal past tense *byl* "was", the adjective *bylój* "past", and the substantivized adjective (etymological *l*-participle) *bylój* "the past, that which was". In addition, sentences of the type (5) above in the form **māter bhor-ā* "mother (is) carrying (she)" gave rise to the

*ā-stem adjectives and, finally, these adjectives were substantivized to nouns as well.

The final *-s of the new substantivized adjectives came to be felt as a marker of the masculine nominative singular and spread then to many noun classes where it did not originally belong. Thus we find, e.g., the Lat. nom. sg. *pēs* (< **ped-s*), Gk. *πούς* (< **pod-s*), etc., although there is no evidence for a final *-s in Skt. *pāt*. The lengthening of the root vowel in the strong cases in Sanskrit derives eventually from the nominative singular ending in *-n and *-r, e.g., Skt. *áśmā* < **ākm-ō* < **ākm-on*, a denasalization similar to that found in the 1st sg. *-ō (< *-om), dat. sg. *-ō (< *-om) (see Schmalstieg 1974:188). The addition of *-s as a marker of the nominative case is even attested in the history of Greek masculine *ā-stem nouns, cf., e.g., Attic *ὁ ταμῆς* "steward" from Homeric *ἡ ταμύη*, in Hesiod *ὁ ἀράχνης* for *ἡ ἀράχνη* (Schwyzer 1939:561), and Attic *νεανῆς* "young man", *πολίτης* "citizen".

Differently from my view in 1976 (pp. 23-4), where I wrote that I considered the Indo-European verb an old noun rather than an old adjective, I would now see two chronologically different sources for the Indo-European verb. The earliest non-diathetic source comes to be represented in the middle/perfect system, whereas the present/aorist system derives from an adjectival or participial construction. This latter construction in turn comes from stem plus anaphoric pronoun. The meaning of perfect/middle was only accepted under pressure from the new present/aorist verbs, and the introduction of the new verbs had both a morphological and a syntactic effect. The present middle paradigms, for example, show a contamination of the new present/aorist system which has verbal concord with the subject and the older perfect/middle (or non-diathetic) forms. Take, for example, the old non-diathetic ending *-oy, which originally showed no concord with the subject. This is represented in the Skt. 1st and 3rd sg. middle perfect *ca-kr-é* (< *-oy). In the recently created middle present, we find the old ending represented only in the 1st sg. *bhāv-e*, but the 2nd sg. middle *bhāv-as-e*, 3rd sg. *bhāv-at-e* show a contamination of the new active endings *-es-, *-et-

plus *-oy. Likewise, the Gk. middle pres. 1st sg. φέρ-ομ-αι, 2nd sg. φέρ-ε(σ)-αι, 3rd sg. φέρ-ετ-αι (with -αι- replacing -ου- as Ruipérez [1968] has shown).

There was also a tendency to change the subject of a sentence such as (1) above from the genitive to the nominative case (under the pressure of the new active system). Thus we now find:

(7) *bhf-tó patér wīrom

"the man carried the father" in which *patér replaces *patrós.

It is evident from the Lithuanian sentences such as (2a) that this new construction was not completely carried through, however.

K. H. Schmidt (1977:109-11) finds three types of change which are necessary for the assumption that Indo-European was originally an ergative language.

According to the first change, the categories animate vs. inanimate must be replaced by the categories of masculine/feminine vs. neuter. According to the second change, the categories of ergative vs. indefinite case must be replaced by the nominative (masculine and feminine) vs. the accusative, vocative, endingless locative, and the neuter gender. Both of the above seem to be well attested for Indo-European, and Schmidt's thesis is surely sound here.

The third change mentioned by Schmidt (1977:111) is the passage of the contrast of action verbs (*Handlungsverben*) vs. stative verbs (*Zustandsverben*) to a contrast of transitive vs. intransitive. Schmidt writes further that the Indo-European system differentiated into active (I prefer the term "dynamic" in English) vs. inactive or stative primarily on the basis of semantic content. The active verbs were implicit transitive or intransitive verbs, whereas the inactive verbs were always intransitive. This difference was clear either from the semantic content of the verbal roots or from the verbal inflection. In the latter, it was reflected by the opposition of perfect (for condition) and middle (for process) on the one hand vs. the active present/aorist on the other

hand.

It is only in this latter situation that I offer a somewhat different alternative to that offered by Schmidt. On the basis of the explanation offered by Braithwaite on the development of the stative to the active verb in modern Georgian, would I suggest that originally there was no diathesis in Indo-European and that diathesis only arose as the old stative verbs (i.e., thematic verbs in which the thematic vowel derives from an old pronoun) became transitive and active.

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ON HITTITE-LUWIAN AND INDO-EUROPEAN ETYMOLOGIES

VITALIJ SHEVOROSHKIN
University of Michigan

1. V. V. Ivanov in *Этимология* 1976 (Moscow, 1978, pp. 159f) compares Hitt. *šarpa-* "sickle, scythe" with genetically related words in Slavic, Lithuanian, Greek, and Iranian with the same meaning as well as Lat. *sarp-* "cut" and OHG. *sarf* "sharp". We can add to this group two more Hittite-Luwian words: (1) Lyd. *en-sarb-* "engrave" (the object is *mxu* "into the stele") and (2) Lyc. B *zrbblā* "engraved inscription" (Lyc. B *z-* here is **s-* voiced before [r]). We can reconstruct a Hitt.-Luw. **sarp-* "cut" derived from an Indo-European stem with the same meaning.

2. Hitt. *mala-* "approve" seems to be derived from IE **mal-* "plentiful, abundant, good" (cf. Lat. *melior* "better"). This stem has the shape **mel-* and the meaning "plentiful, abundant" in Illič-Svityč #278, but Gk. *μᾶλα* "very" shows the archaic non-apophonic **a*. Illič-Svityč shows that in other Eurasian (hereafter, EA) languages, the meaning was either "abundant" (Dravidian **mal*) or "good" (Hamito-Semitic **ml-*). Since "good" is present in Indo-European and Latin and -- implicitly -- in Hittite, one can reconstruct "good" as a common Indo-European meaning as well. Note that Illič-Svityč posited a more precise meaning for this Indo-European stem than the meaning accepted so far: "strong, great" (cf. Pokorny, *IEW*, p. 720). Illič-Svityč cites several Indo-European words showing that the original meaning was "plentiful, abundant": Latv. *mīlns* "abundant, plentiful", Lat. *multus* (< **ml̥-to-*) "plentiful", etc.

3. The above example shows the importance of outer comparison in Indo-European etymological work. We may also note that Hittite and Balto-Slavic can preserve the archaic meaning better than other Indo-European languages. In his EA dictionary, Illič-Svityč makes several important corrections to Indo-European etymologies as proposed by Pokorny and other linguists. Illič-Svityč reconstructs, for instance, IE **bher-* "good, big" (Arm. *bari* "good", Gk. $\phi\acute{\epsilon}\rho-$ id., OHG. *bor-* "very") as different from IE **bher-* "take, bring, carry", and, in this latter, he considers the meaning "take" -- and not the meaning "carry" -- as original since it is present in other EA languages: cf. also archaic Slavic: OCS. *berq* "I take" (an archaism, not an innovation!). Thus, one has (1) EA **bara* "big, good" (Illič-Svityč #7) and (2) EA **bari* "take" (Illič-Svityč #8). Illič-Svityč #58, EA **čalHa-* "broad, wide", is present in IE **stelH-* id. (Lat. *lātus* id. < **stlā-to-*; OCS. *po-stol-ati* "make bed"; Arm. *lain* "broad"); this stem is *not* identical with IE **st-el-* "put" (cf. Pokorny, *IEW*, pp. 1018f). Illič-Svityč gives a new etymology for Gk. $\theta\acute{\alpha}\lambda\alpha\sigma\sigma\alpha$ "sea" as coming from IE **dheLH-*, which is related to Altaic **d[ā]lu-*, **dōli-* "wave" and some other EA languages, all these forms being derived from an EA stem **dalq[u]* "wave". Lith. *angà* "opening, entrance" is probably connected with Uralic **aŋa/*ōŋe* "mouth, opening, open", Altaic **aŋa* "open", Dravidian **aŋk(a)* "open the mouth", all from EA **Hanga* "open the mouth" (Illič-Svityč #105). Illič-Svityč rejects the etymology Lith. *angà* < IE **Heng-* (semantically bad). Illič-Svityč thinks that Lat. *ignis* "fire" is not secondary to *ignis* (cf. also *-n-* in OLith. *ungnis* -- this was formerly considered to be a misspelling). He compares Skt. *aŋgatis* "fire", OIce. *ong* "hearth", OPruss. *anglis* "coals" and reconstructs IE **Heng-* "burn" < EA **Henka* id. (Illič-Svityč #106). Illič-Svityč (#203) gives a new etymology for Lat. *cauda* "tail", deriving it from EA **k'udi* id. (cf. Altaic **k'udi-rga* id., Kartvelian **k'wad-/*k'ud-* id. Illič-Svityč (#206) reconstructs IE **Kerp-* "gather (fruits, etc.)" as different from IE **(s)ker-p-* "cut" (cf. Pokorny, *IEW*, p. 944). IE **Kerp-* (**K* = **k* or **ĕ*) (Gk. $\mu\alpha\rho\acute{\iota}\varsigma$ "fruit", OE. *hærfest* "fall" [NE. *harvest*]) belongs to EA (?) **k'VrpV* "gather fruits":

cf. Kartv. **k'rep-* id. According to Illič-Svityč (#209), IE **keiw-/***keu-* (**kieu-*) (in Skt. *kévaṭas* "hole, cave", OCS. *suji* "empty", etc.) is different from IE **keu-* "swell", etc. (Pokorny, *IEW*, pp. 592f). IE **keiw-* belongs to EA **k'ajwV* (in Ur. **kajwa-/***kojwa-* "dig, ladle out, throw"). Since there are two different EA stems for "bone" -- **ʕUʕ'HV* (Dolgopol'skij) and **k'aSV* (Illič-Svityč #219) -- it is wrong to try to combine genetically Indo-European words from the first stem (like Hitt. *hašta-* "bone") with the words from the second one (like OCS. *kostb* "bone", Lat. *costa* "rib" < IE **Kos-t-* "bone").

These examples -- and there are many more of them¹ -- show the importance of Illič-Svityč's and Dolgopol'skij's work for etymology: both phonetics and semantics are considered here in their evolution from the prehistoric times almost to our time. The main conclusion is this: very often inner comparison lacks the means to give correct results -- only outer comparison has the means. So often "innovations" appear to be archaisms, and vice versa.

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¹Cf. Hitt. *ak-* "die" (IE **k* since there is *-kk-* in *akkatar* "death", etc.), Lyc. *B eke* "ancestor" (lit. "dead"), *ekāne* (to Hitt. *akkatar*) indicate an IE stem **Hek-* "die" and probably "*lie" -- EA **HVk'V* "lie" has been reconstructed by Dolgopol'skij, and semantically "lie" can develop the meaning "die".

ON INDO-EUROPEAN SIGMATIC VERBAL FORMATIONS

KENNETH SHIELDS, JR.
Auburn University

In recent years a great deal has been written about the sigmatic verbal formations of Indo-European.¹ The most salient feature of these constructions built on an *s*-element is their wide variety of functional roles. Sigmatic verbal formations are historically attested as marking the aorist, the future, the subjunctive, the desiderative, the preterite, and the present, as well as generally indicating the second and the third persons. Although most scholars agree that "sigmatic verbal stems are relatively recent formations" (Adrados 1971:97), the original signification of *-*s*- in Indo-European has been a subject of great debate. Adrados (1971) and, less recently, Meillet (1908) have asserted that "sigmatic verbal stems...proceed from an *s*-enlargement of undifferentiated meaning, ...which afterwards produced independent evolutions in different languages" (Adrados 1971:97), while many other Indo-Europeanists "think in terms of the original unity of *s* and consider its differentiation as to meaning a secondary fact or the result of the organization of a system of categories which still did not exist in the oldest Indo-European" (Adrados 1971:96). Thus, "Ambrosini [1962: K.S.] believes that *s* was the marker of intransitivity; Pariente [1963, 1965: K.S.] calls it an injunctive characteristic; Watkins [1962: K.S.] lo-

¹See, for example, Ambrosini 1962, Gonda 1962, Watkins 1962, Pariente 1963 and 1965, Adrados 1964 and 1971, Gil 1964, Kuryłowicz 1964: 109ff., and Narten 1964.

cates it in the preterite. Kuryłowicz [1964: K.S.], quite reluctantly, adopts the old interpretation...in accordance with which *s*-subjunctive and *s*-aorist are two old *s*-formations which became afterwards inter-mixed" (Adrados 1971:96-7). The fundamental problem with assigning an original meaning to **-s-* is, as Adrados (1971:97) points out, that the manifold uses of sigmatic formations in the historical dialects speak against a single, original function of **-s-* in the proto-language itself. Although I would agree that specifically dialectal developments had much to do with the evolution of the role of the sigmatic element, I would like to suggest that an original function for **-s-* can be traced to Indo-European, but that this function is very different from any which have been heretofore proposed. Indeed, I feel that **-s-* was originally a deictic particle which eventually became incorporated into verbal structures.

The most widespread non-personal function marked by **-s-* is the aorist. "The *s*-aorist is found in Greek (ἐζευξα, ἐδευξα, etc.) and Slavic (*věso*, *sluxo*, etc.)" as well as in Indic (Skt. *ānaiṣīt*). "In Latin *s*-aorist forms have coalesced with perfect forms to make one tense (perf. *dixi*, *dūxi*, etc.). In Irish injunctive and subjunctive forms of the *s*-aorist are retained (the *s*-subjunctive)" (Burrow 1973: 338-39),² while in the *s*-preterite of Tocharian are probably "der idg. *s*-Aorist (ai. *aprākṣīt* ~ B *preksa* [A *prakās*], das idg. Perfekt mit Abtönung des Wurzelvokals (ai. *papracccha*, lat. *poposcē* ~ B *prekwa* [A *prakwā*]; lat. *nocuī* ~ B *nekwa*) sowie nur im Otoch. der idg. athematische Wurzel-aorist (ai. *ayukta*, *apāci*, **apakta* ~ A *pakāt*) kontaminiert" (Krause and Thomas 1960:247). Meillet (1964:214-15) describes the other non-personal sigmatic formations: "Le futur indo-iranien en **-sya-*, attesté par skr. *vak-ṣyā-mi*, gâth. *vax-ṣyā* 'je parlerai', est à rapprocher du futur lituanien: *lik-siu* 'je laisserai', et du suffixe **-se/o-*

²For contrasting views on the complicated etymological relationship between the *s*-aorist and the *s*-subjunctive, see Kuryłowicz 1964: 113-16 and Watkins 1962:124-25.

de gr. $\lambda\epsilon\acute{\iota}\psi\omega$ 'je laisserai', lat. *capsō*, etc.; l'alternance de $*-sye/o-$ et $*-se/o-$ est comparable à celle des désinences de génitif $*-syo$ et $*-so$ dans gâth. *ča-hyā* 'de qui' et v. sl. *če-so* 'de quoi', v.h.a. *hwe-s* 'de qui'. Le futur est une rareté dans les plus anciens textes indo-iraniens: le R̥gveda tout entier n'a qu'une quinzaine d'exemples de formes personnelles du futur..., et la forme du futur ne devient fréquente que dans les textes sanskrits postérieurs; de même le slave n'en a qu'un exemple, le participe *byšęšteje* 'ce qui doit être'. D'autre part le futur lituanien ne répond pas exactement au futur indo-iranien: la flexion est en $-si-$ ou en $-s-$ suivant les dialectes; par exemple la Ire personne du pluriel est *liksime* ou *liksme*, différente du type skr. *vak-ṣyāmaḥ* 'nous parlerons'. La place du ton attestée par gr. $\lambda\epsilon\acute{\iota}\psi\epsilon\iota\nu$, $\lambda\epsilon\acute{\iota}\psi\omega\nu$ ne s'accorde pas avec celle qu'indique le skr. *vakṣyāti* 'il parlera', mais avec celle du participe lit. *liksęs* 'devant laisser'.

"Au latin et à l'irlandais, la formation en $*-se/o-$ fournit des subjonctifs, type lat. *faxit*, v. irl. *tēis* (de $*steik-se-t$) 'qu'il aille'. En irlandais, ces thèmes en $*-se-$ accompagnés de redoublement fournissent un futur; ainsi en face de v. irl. *guidim* 'je prie', on a le subjonctif $-gess$ 'que je prie' et le futur $-gigius$ 'je prierai'.

"A côté de $*-se/o-$, il existe, surtout après sonante finale de racine, une formation en $*-ese/o-$: skr. *kar-iṣyā-ti* 'il fera', gr. $\mu\epsilon\nu-\acute{\epsilon}\omega$. De même que le futur grec des verbes à racine terminée par ν , ρ , μ , λ - est en $-\epsilon\omega$ (ancien $*-esō$), le désidératif sanskrit a pour suffixe i.-e. $*-se/o-$ après consonne, et i.-e. $*-ese/o-$ après sonante; en face de *rīrikṣati* 'il désire laisser', on a ainsi *elīkīrṣati* 'il désire faire', où $-īrṣ-$ représente $*r + *es$ (la racine est monosyllabique, comme le montre *kṛtāḥ* 'fait'); le lituanien a de même *klāusia* 'il interroge' (il veut entendre) de $*klow-es-$, en regard de *klāuso* 'il entend' de $*klow-s-$."

Although there is no s -aorist or future in Hittite, "there are certain preterite forms in the 2 and 3 singular which have final $-š$: 2 sg. *da-a-aš* 'you took', *tarma-a-aš* 'you put in', *da-iš* 'you placed', *pa-iš* 'you gave'; 3 sg. *da-a-aš* 'he took', *da-a-iš* 'he placed', *ag-ga-aš*

'he died', etc." (Burrow 1973:339). Burrow (1973:339) notes that although "these forms are compared to the *s*-aorist of other IE languages, [cf. Kronasser 1956:191: K.S.]...it seems unlikely that they are simply remains of a fully developed IE *s*-aorist system". Moreover, "there is some agreement between Hittite and Tocharian on this point, since the latter language has also a certain type of preterite using an *s*-stem in the 3 sg.: A. *prākās*, B. *preksa* 'he asked', and this coincidence does not seem fortuitous" (Burrow 1973:339). However, even though these forms are not original *s*-aorists, they are probably etymologically related to other *s*-formations, cf. Burrow 1973:339, Watkins 1962:97-106. Watkins (1962:90-3) argues that "the use of an *-s* desinence of the 3 sg. preterite...recurs in other Indo-European languages", specifically in Indo-Iranian forms like Skt. *bhūyās* "he should have been", *dhās* "he put" and OPers. *āiš* "he went", *akunauš* "he made".

Although Hittite, Tocharian, and Indo-Iranian attest a sigmatic suffix as a third person (and a second person, in the case of Hittite) marker in the preterite tense, other languages and other constructions in these same languages show it as a personal indicator with no such limited temporal signification. Of course, the marker of the second person which is generally reconstructed for Proto-Indo-European is **-s(i)* (Skt. *-s*, *-si*; Gk. *-ς*, *-σσι*; Hitt. *-š*, *-ši*; Lat. *-s*; Goth. *-s*; OCS. *-šb*, etc.). And besides the Hittite, Tocharian, and Indo-Iranian attestations of **-s* as a third person suffix, Krause and Thomas (1960: 259) note that there exists in Tocharian A a third person singular present suffix *-s* (*pālkās* < **bhlg-si*) and that "eine ähnliche Übertragung findet man in an. *brýtr* (< urgerm. **breutiz*) 'du brichst' und 'er bricht', vielleicht auch in gr. *φέρει* (< idg. **bheresi*) sowie in altnorthumbr. *findes* (neben *findep*)". I believe that the occurrence of **-s(i)* as a marker of both the second and the third persons is a result of the fact that Indo-European originally possessed only two personal categories -- a personal (first person) and a non-personal (second/third person). Thus, Erhart (1970:113) writes that until late Indo-European, "es bestand wohl damals noch kein Unterschied zwischen der 2. und der 3. Per-

son, zwischen dem Plural und dem Singular usw." In further support of this assertion, Erhart (1970:57) notes that besides marking the third person function (e.g., 3 sg. Skt. *-t*, *-ti*; Gk. *-τι*; Hitt. *-t*, *-zi*; Lat. *-t*; Goth. *-þ*; OCS. *-to*, *-to*), **-t* is also attested in the second person singular ("[*t*] het. *t*, *ti* [?], toch. AB *t* [?]; [*t* + *V*] aind. *tha*, *thāh*, gr. *ῑns* [?], het. *ta*, *tari*, toch. A *tār*, *te*, B *tar*, *tai*, air. *tha*, *ther*, got. *t*") and in the second person non-singular (dual/plural) ("[*t* + *V*] aind. *ta*, *tha*, *thah*, *tam* [usw.], gr. *τε*, *τον*, het. *ten[i]*, toch. A *e*, *cār*, lat. *tis*, *te*, got. *þ*, lit. *te*, *ta*, sl. *te*, *ta* usw."). He then concludes: "Die Endungen der 2. Person (aller drei Numeri) enthalten zum Teil denselben Kern...wie die meisten Endungen der 3. Person sing. Der Unterschied *t* (3. u. 2. Ps.) : *th* (nur 2. Ps.) ist vielleicht in der Weise zu deuten, daß die schon seit pie. Periode bestehende phonetische Variation *t* ~ *th* später zur sekundären Differenzierung grammatischer Formen ausgenützt worden ist" (1970:57-8). What all of this seems to suggest is that the second/third person category, whose original exponent was probably **-∅* (cf. Watkins 1962:90-106)³, employed both **-s* and **-t* as its desinence, with **-s* gradually becoming specialized largely in the second person, and **-t* in the third, although remnants of the original vacillation are still historically attested. Thus, I feel that at some stage of development Indo-European possessed a verbal paradigm like the following:⁴

³"The occurrence of **-∅* in the second person function is still attested in the singular imperative (**age* 'lead': Skt. *ājā*, Gk. *ἄγε*, Lat. *age*). Moreover, as Erhart (1970:57-58) says: 'In einem kleinen Teil der Fälle sind die Endungen der 3. Person Sg. akonsonantisch: aind. *a*, *e*, gr. *ελ*, *ε*, het. *i*, *a*, *ari*, toch. AB *∅*, got. *∅*, lit. *a* usw. ...; als ihre Bausteine sind der thematische Vokal und der Präsensdeterminativ *i* (bzw. *r*) zu erkennen'" (Shields forthcoming).

⁴I believe that the category of number developed only in later stages of the language. Lehmann (1974:201-02) thus says: "The system of verb endings clearly points to an earlier period in which there was no verbal inflection for number.... For the dual and plural endings are obviously defective. We cannot reconstruct endings in these two numbers which are as well supported as are those of the singular, except for the third plural.... The number system is defective in sub-

1 pers.	*-m
2 pers.	*-s/*-t
3 pers.	*-s/*-t

The number of endings in which these formants came to appear gradually increased, many resulting from the simple process of contamination, e. g., *-t*i* < *-t + *-i (= a deictic particle indicating "hic et nunc", cf. Watkins 1962:100). As Watkins (1962:105) observes: "The rigid paradigmatic structure for the three persons of the singular, -m(*i*), -s(*i*), -t(*i*), belongs only to the latest period of Common Indo-European, and was completely achieved only after the separation of the dialects".

An additional function of the sigmatic formant in Indo-European was as a derivational suffix marking the present stem. However, "diese Bildung läßt sich in den übrigen idg. Sprachen nur spärlich nachweisen, z.B. ai. *rakṣati* 'schützt' (neben s-losem ags. *ealġian*), gr. ἔψω 'koche' (neben s-losem arm. *ep'em*), gr. ἀ(φ)έξω 'vermehrte', ahd. *wahsan* (neben s-loser Wz. *auk-*)" (Krause and Thomas 1960:206). The unproductive nature of present stems in *-s- is emphasized in Burrow's (1973: 338) description of such formations in Sanskrit: "There are indeed in the Veda certain isolated forms of the present made in this way (*stuṣé*, *hīṣe*, *krṣe*) as well as some anomalous formations containing s which cannot be referred to the s-aorist stem (i. *arcase*, *ṛñjase*, ii. *grñṇīṣé*, *punīṣé*) but these have the appearance of being tentative formations which never developed very far rather than relics of an earlier system". Only Tocharian and Hittite show the sigmatic formant as a productive present indicator (cf. Toch. B 3 pers. pres. *kälpāṣṣām*, Hitt. *park[u]-weṣzi*), although "den otoch. s-Präsentien entsprechen im Wtoch. nur zum geringeren Teil ebenfalls s-Bildungen (VIII), in weiterem Umfang dagegen sk-Bildungen (IX, s.d.)" (Krause and Thomas 1960:206).

The integration of deictic particles into the verbal system of

stantial as well as in verbal inflection".

Indo-European is not a novel idea. As indicated earlier, Watkins (1962: 102-03) argues that a deictic particle **-i* with "here and now" signification was frequently combined with various verbal suffixes in Indo-European, including the ending **-Ø*: "When we speak of a 3 sg. zero ending as in *dhās-Ø*, this does not exclude the further presence of some element or component which is non-personal in nature. One common such element in Indo-European was *-i*, the deictic particle of the hic et nunc. This particle was freely combinable with the personal endings, as in *-m/-mi*, *-t/-ti*, *-nt/-nti*. We know furthermore that the free combinability of this particle existed down through the period of the formation of the individual dialects, since these show divergent utilizations of *-i*. It has been suffixed to the perfect endings *-a -tHa -e* in Italic *-ai -tai -ei* > Lat. *-ī -(is)tī -ī(t)*. The same occurred independently in the Hittite *hi*-conjugation: *-ha -ta (*-e ?) → -hi -ti -i*. In Slavic the same change *-a → -ai* is attested in 1 sg. *vědě*. We know as well that IE *-i* was combinable with a 3 sg. zero ending as is proved by the Greek thematic 3 sg. present *-ei* < *-e + i*, where *-e* is simply the thematic vowel. The Hittite *hi*-conjugation 3 sg. *-i* may also contain deictic *-i* suffixed to a zero ending. The deictic *-i* alone, suffixed to the bare root with zero ending, occurs finally in a very archaic category in Indo-Iranian: the 3 sg. aorist passive. The most archaic form of this class in the Rig Veda is *jani* 'was born', which shows the absence of the secondary vrddhi as in *jāni*". The motivation for the addition of the deictic particle **-i* to verbal forms is described by Safarewicz (1974:52): "The function of the element *-i* was to strengthen the formation in which this element appeared.... It may be supposed that by means of strengthening the indicator of the person in the present tense these endings gave it the meaning of actual present tense, that is to say, the present tense in a precise meaning". Such specification was necessary because the verbal system of early Indo-European "was based upon the opposition of aspectual character", with the present(-aorist) system expressing action and the perfect system expressing state of being (Safarewicz 1974:51-2). Therefore, "in

PIE, tense and the time of action were not indicated by means of verbal affixes. Indications of the time of the action were given by means of particles or adverbs or were implicit in the aspects of the verb forms" (Lehmann 1974:139). Markey (1979:65) also emphasizes that in early Indo-European spatio-temporal relations were primarily expressed by means of deictic elements: "At an early stage of Indo-European deictic markers constituted the formal indication of the grammatical categories expressing time, place and person". It was only "in late PIE" that "features of tense become predominant", with tense distinctions coming to be indicated inflectionally (Lehmann 1974:189-90). So it would seem, on the basis of Watkins' analysis of the **-i* appearing in verbal suffixes, that inflectional tense markers could have their source in deictic elements.

I believe that a similar deictic particle **-s* (a reduced form of **-os*) was also combinable with personal markers in the verb. The existence of such a particle is suggested by a number of data. In the first place, just as the deictic particle **-i* is attested in the locative case (loc. sg. **-i*: Skt. *-i*, Gk. *-ι*, Lat. *-e*), so there appears a deictic particle **-s* as a marker of this case (loc. pl. **-si* [**-s* + **-i*]: Gk. *-σι*; **-su* [**-s* + the deictic particle **-u*]: Skt. *-su*, OCS. *-xv*, Lith. *-su*;⁵ loc. du. **-ous* [the thematic vowel **-o* + **-u* + **-s*]: Skt. *-os*, OCS. *-u*). Moreover, I feel it to be significant that **-s* is also found in the genitive case as well (**-es*, **-os*, **-s*, **-si_o*, **-so*). Lyons (1971:388-95) emphasizes that there exists an intimate formal and semantic connection between the genitive and the locative in many of the world's languages; and the detailed study done by Clark (1978:117-

⁵Hirt (1927:11-2) says: "Idg. *u*, *ū* ist im Indischen in der Form *u*, *ū* als hervorhebende Partikel ganz geläufig. Dazu gr. *υ* in *πᾶν-υ*, sowie in *τό-υ-το* = ai. *tad u tad*. Ob die Fragepartikel got. *u* hierhergehört, ist fraglich, da sie aus *un* = idg. *u* : *ne* entstanden sein kann.

"Erweitert haben wir *u* in l. *ubi* 'wo', l. *u-ti* 'so', aw. *uⁱti*, gr. *ἡ-ύτε* 'gleichwie', ai. *u-tā* 'auch sogar'. Aus dem Gegensatz von *i-bi* und *u-bi* ergibt sich wohl die Bedeutung 'hier' und 'da' für *i* und *u*".

18) points out that "the existential, locative, and possessive constructions examined in the present sample of languages are related to one another in word order, in verbs used, and in their locative characteristics". I believe that it is this naturally close association of the locative and the genitive cases that accounts for their identity of form in the dual number of Indo-European (*-ous). Since the two cases share this common form, Kuryłowicz (1964:200) argues: "The paradigm of the dual suggests an original identity of the gen. and the loc., i. e. a prehistorical stage attested in neither the sing. (-s, -i) nor in the plural (-ōm, -su/-sī)". It is important to note that I have argued elsewhere (Shields 1979) that Indo-European possessed a genitive suffix in *-i as well. This suffix is attested in the o-stem genitive ending generally reconstructed as *-sio (Skt. -sya, Av. -he, Hom. -ιο < *-o-sio), which, I believe, is a contamination of the genitive markers *-s and *-i with the thematic vowel. The Tocharian genitive desinence -i (cf. Krause and Thomas 1960:105), the Gothic genitive suffix -ē, and the Italo-Celtic genitive suffix -ī are also reflexes of an o-stem desinence *-o-i. (See Shields 1979 for details.) A locative suffix *-N (= m or n) may be reconstructed for Indo-European, a suffix which formally parallels the genitive ending in *-N (Gk. -ων, Skt. -ām, Lat. -um). This suffix is attested in locative forms like Skt. *kalāyām* and OPruss. *schisman* (cf. Gray 1932:192).⁶ "A similar element -i(n) [perhaps a contamination of *-i and *-N: K.S.] is found in Skt. and Av. loc. types like *a-sm-in*, *a-hm-i*, *a-hm-y-a*, and in Homeric ablatives, instrumentals, and locatives [both sing. and plur. without distinction of form] in -φι(ν) < *-bh-i(n): abl. sing. μελαθρόφιν, plur. ὀστεόφιν; instr. sing. βύηφιν, plur. θεόφιν; loc. sing. ἐσχαρόφιν, plur. ἰριόφιν. Here, too, one must place Dor. ἐμῖν, τῖν, Boeot. εἰν < *σεφιν, Lesb.

⁶*schisman* "occurs in the expression...: *en schisman ackewijstīn Krixtiāniskan astin*...'in this evident Christian affair'. Endzelins, 1944, 120, objects that elsewhere in the Old Prussian texts there is no living locative case"; and because of this fact he argues that the form

ἀμυλ(ν), ὀμυλ(ν), Attic ἡμῶν, ὀμῶν" (Gray 1932:192-93). A related nasal locative suffix is perhaps found in Hitt. *kedani* and Skt. adverbs like *idānīm*, *tedānīm*, etc. (cf. Josephson 1967:137-38).

Once this intimate formal and semantic relationship between the locative and the genitive is understood, the origin of such adverbial forms as OLat. *now*, Gk. νυκτός, Goth. *nahts*, etc. "at night" is obvious. Brugmann (1904:451-52) refers to them as original genitives, or, as he puts it: "Der Gen. von räumlichen und zeitlichen Begriffen" (1904:438); but they seem to attest to the ancient identity of the two cases and therefore the use of **-s* as a locative element.

The question which remains, of course, is this: what was the original semantic value of the sigmatic deictic particle? If Brugmann (1911:311) is correct that "vielleicht sind alle Demonstrativa einmal deiktische Partikeln, also indeklinabele Wörter gewesen", and if this same deictic particle **-(o)s* is present in the Hittite enclitic pronoun *-as* and the etymologically related (cf. Anttila 1972:359) demonstrative pronoun **so-* (Skt. *sá[s]*, Gk. *ὁ*, Goth. *sa*), as I believe it is, then it would seem that **-(o)s* originally expressed what Brugmann (1911:312) calls "Dér-Deixis",⁷ since both demonstrative forms signify "this". Brugmann (1911:313) thus observes: "Die Stämme **so-*, **sā-* und **to-*, **tā-* [have the meaning: K.S.] 'der'," although, as Prokosch (1939:267) notes: "In IE times, the stem *to-* had no forms for the nom. sg. masc. and fem. For this, a stem of stronger deictic force was used, *so-*.... This was doubtless due to the fact that the subject case was expressed by the ending of the verb, and a pronominal form was needed in emphatic use only". Moreover, Sturtevant (1933:198) says: "The commonest of all Hittite pronouns is the enclitic *-as* 'is'; it may as

"may be a misprint for *schismau* in which case the word would be in the dative singular" (Schmalstieg 1974:132-33). But this is not mandatory.

⁷Brugmann (1911:312) describes "Dér-Deixis" as "die allgemeinste Zeigart, bei der usuell weder der Gegensatz von Nähe und Ferne des Gegenstands, noch der von Sprecher, Angeredetem und dritter Person eine Rolle spielt, z.B. *der ist gewesen; das gib mir*".

well be called the personal pronoun of the third person, although in form it belongs with the demonstratives" (cf. here also Friedrich 1974: 63). What I am suggesting, then, is that early Indo-European possessed a present second/third-person verbal construction in $*-\emptyset-i$ and a non-present second/third-person verbal construction in $*-\emptyset-s$. Perhaps another non-present verbal construction in $*-\emptyset-u$ is seen in the Hittite third-person singular imperative suffix $-u$ (Shields Ms.); but I shall not pursue this assertion any further here.

Before discussing the origin of sigmatic verbal forms in any greater detail, a digression regarding the original nature of the Indo-European system of spatio-temporal relations is necessary. As my use of the term "non-present" implies, I would like to propose that until late Indo-European, the system of spatio-temporal relations was organized simply as $[\pm\text{Proximal}]$. Traugott (1978:374) explains: "As a deictic, tense is basically a Proximal-Distal relation, formalizable as $[\pm\text{Proximal}]$. This is reflected not only in its lexicalization by adverbials like *now* and *then*, which are sometimes indistinguishable from locative deictics, cf. Old English *þa* 'there, where, then, when', but also in its grammaticalized forms.... *Then* may be simply *not-now*, with subcategorizations according to degree of closeness to speaker or secondary reference point. Thus Highland Tok Pisin has a particle *nau* that indicates both immediate past ('just now', action started in the immediate past), and 'immediate future'.... In some languages $[\pm\text{Proximal}]$ may be the only organization of tense, without any concept of time-line.... Orientation to a time-line involves division of *then* into past and future". It is my belief that this latter development occurred only in late Indo-European and its dialects. In early Indo-European I feel that $*-i$ expressed "now" and that $*-s$, $*-u$, $*-N$, and other deictic particles denoted various degrees of distance from that temporal point.

Gonda (1956:28) appears to ascribe the same spatio-temporal system to early Indo-European. He says: "From various idioms it appears that, temporally as well as spatially, the main distribution often is between the near and the far, between the here-and-now, or here or now, and the

not-here, there, or not-now. One might compare the 'double meaning' still inherent in such a comparatively recent vocable as the Dutch *stracks*, a temporal adverb meaning 'presently' and 'just now'. In Sanskrit, *tatra* 'there' when used in a temporal sense, can refer to the past (e.g. AitBr. 7, 28) and the future (e.g. Mbh. 3, 65, 6). Cf. also G. $\pi\acute{o}\tau\epsilon$ 'at some time or other', $\tau\acute{o}\tau\epsilon$ 'at that time, then' which are used in reference to the past as well as the future; the Engl. *then* 'at some former time', but also 'at that time in the future'; the Hebr. $\bar{a}z$ 'then', likewise referring to both past and future and other such temporal adverbs in other languages. Do we err greatly if we consider these words to reflect an ancient distinction: now-here : not-now-here?" He further maintains (1956:29, fn. 1) that "this [binary spatio-temporal system: K.S.] is probably the key to the puzzling Goth. *gistradagis* for *áurion* in Mt. 6, 30: 'wie Upström bereits bemerkt, (bedeutet) auch im Ahd. *ê-gester* 'übermorgen'".

I believe that the second/third-person construction $*-\emptyset-s$ (second/third-person suffix + deictic particle) played a central role in the development of the various sigmatic formations of late Indo-European and the dialects. I would like to suggest that at the point when the spatio-temporal system began to orient itself to the time-line, this formation was subject to two reanalyses:

1. $*-s$
2. $*-s-\emptyset^8$

Anttila (1972:94) describes the motivation for such morphological reinterpretations: "No proportions need work in such reinterpretations, even though they do in subsequent derivations. Latin had a suffix *-mus*

⁸The existence of competing formations is, of course, a cornerstone of contemporary variation theory. Watkins (1962:100-02) presents a similar analysis of the origin of the *s*-aorist and the personal marker $*-s$.

(e.g., *domi-nus* 'master' and *fāgi-nus* 'of beech'). Applied to *ā*-stems, we get forms like *Rōmā-nus* and *silvā-nus* 'forest deity'. At some point these were analyzed as *Rōm-ānus* and *silv-ānus*, because new derivatives were found with a suffix *-ānus* on stems without *ā*, for example, *mund-ānus* 'of the world' (*mund-*), *urbānus* 'of the city' (*urb-*), and *montānus* 'of the mountains' (*mont-*). Of course, it was the first of these re-analyses which accounts for the origin of second/third-person preterite formations in **-s*, cf. Hitt. *daiš*, and the general second/third-person suffix **-s*; for with the passage of time, **-s* generally lost its preterite value and became simply a personal indicator. On the other hand, the second reanalyzed formation shows **-s-* as a stem-formant. Because **-s* originally embraced the notions of past and future time, subsumed under "not-now", this formation would have naturally served as the basis for the aorist and the future as Indo-European began to divide the not-now into past and future. I believe that the aorist had already begun to emerge as a preterite tense at this time, in contrast to its earlier aspectual character; so the non-present formation in **-s-* was integrated into the existing aorist system. Lehmann (1974:189-90) explains: "In the course of syntactic change a given feature may come to predominate, somewhat as a given phonological feature may change in sound. In late PIE, features of tense became predominant.... The aspectual meanings thereupon were expressed lexically or by derivational processes. Forms in which the shift from a predominant aspectual to a tense meaning was not carried out provide excellent evidence for the development. Among such forms are the Germanic preterite-presents.... Thus, both of the PIE perfective aspect forms, the aorist and the perfect, were shifted to preterite tense forms as opposed to present-tense forms, which normally had their origin in imperfectives". The integration of **-s-* formations into the subjunctive system and their appearance in the desiderative are natural results of the fact that two of the most common atemporal functions of the future tense are the indication of these moods (cf. Ullrich 1978:102-05). Indeed, it would seem that in late Indo-European the subjunctive itself could be

used to indicate futurity (cf. Kuryłowicz 1964:137-38) further strengthening the naturally close association of future tense and subjunctive mood. Ultan (1978:105) maintains that "the reason for the preponderance of modal applications of future tenses must lie in the fact that most modal categories refer to differing degrees of uncertainty, which correlates with the element of uncertainty inherent in any future work" Of course, the addition of further elements to the *s*-affix served to hypercharacterize the various functions it came to mark.

The problem which remains is to explain how the deictic particle **-s*, with "Dér-Deixis", came to appear as a marker of the present stem, a function expected of a deictic particle with "Ich-Deixis" (Brugmann 1911:312).⁹ Now I believe that sigmatic present forms are etymologically related to the other sigmatic constructions described above. As I mentioned earlier, sigmatic present formations are generally quite rare in the dialects, a fact which seems to suggest their secondary analogical origin.¹⁰ I feel that they, too, are a result of morpho-

⁹It is interesting to note that the deictic particle **-i* "here and now" ("Ich-Deixis") appears in a demonstrative pronoun **i-* (cf. Lat. *is*, Goth. *is*, Skt. *im-ām*, Lith. *jìs*), which was "vermutlich im Uridg. in der Bedeutung von **to-* nicht wesentlich verschieden, also allgemein-deiktisch. Die Deixis war aber wohl eine minder energische als die von **to-*, worauf der in weiterem Umfang als bei *to-* zu beobachtende Gebrauch als Hinweis auf Elemente der Rede und als Er-Pronomen d.h. als Pronomen der dritten Person hindeutet" (Brugmann 1911:333). However, a number of factors may have contributed to this development. In the first place, **i-* fell together with the demonstrative stem **e-* (cf. OHG. *er*, OLat. *em*, Av. *ē*) in a single suppletive paradigm, perhaps indicating some meaning change. Moreover, "it is well known that by use a demonstrative tends to become weaker and weaker in its deictic force, and is therefore continually reinforced by being compounded with itself or with other demonstratives or with adverbs" (Lane 1961:469). This fact, too, demonstrates that a semantic shift from "Ich-Deixis" to "Dér-Deixis" would not be unexpected.

¹⁰Of course, the present suffix **-ske/o-* (Hitt. *-škanzi*, Gk. *-σνω*, Lat. *-scō*, Skt. *-cchati*) (cf. Meillet 1964:220-21) was a productive desinence. However, I believe that this contamination of **-s* and the element **-ke/o-* derives its productivity in the present largely from the latter formant.

logical reinterpretation. I have already proposed that the original exponent of the second/third-person category in Indo-European was $*-\emptyset$, with two elements -- $*-s$ and $*-t$ -- eventually coming into competition with it. Another very important piece of evidence which implies that these latter two suffixes were both exponents of the non-personal category is that "in einigen Personalendungen der 2. Person (Sg. u. Pl.) stehen die Elemente *s* und *t(h)* nebeneinander: gr. $\sigma\theta\alpha$, het. $\check{s}ta$, $\check{s}ten(i)$, toch. A *st*, B *sta*, lat. *istī*, *istis*" (Erhart 1970:57). That this contamination $*-st$ also began to compete with $*-s$ and $*-t$ is demonstrated by the fact that the preterite of the Hittite *hi*-conjugation attests $-\check{s}$, $-ta$, and $-\check{s}ta$ as markers of the second and the third persons. I would like to suggest that the desinence $*-st$ was subject to reanalysis as $*-s-t$ because the suffix $*-t$ alone marked the same personal function. In other words, $*-s-$ was reanalyzed as a simple stem-formant, which was then subject to generalization, the extent of the generalization depending on the individual dialect. Perhaps it was the widespread generalization of the *s*-presents in Hittite which brought about a merger with the *s*-aorists, resulting in the disappearance of the latter category in this language. After this reanalysis took place, the suffix $*-st$ itself was apparently retained only as a desinence with a very limited distribution, as the few attested occurrences of $*-st$ mentioned above demonstrate.

I admit that the proposals made here cannot be proven absolutely correct. However, I feel that they are reasonable and therefore should be given serious consideration as possible explanatory statements. At the very least, they seem to provide an interesting alternative to existing theories regarding the origin of these puzzling verbal formations in $*-s$.

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SPRACHVERFALL UND SPRACHTOD BESONDERS IM LICHT E INDOGERMANISCHER SPRACHEN

OSWALD SZEMERÉNYI
Universität Freiburg

0. Sprachtod scheint ein klarer Begriff zu sein: er beinhaltet, daß eine Sprache von einem gewissen Zeitpunkt an nicht mehr gesprochen wird, sie stirbt aus. Weniger klar ist der begriffliche Inhalt von Sprachverfall. Heute scheint er zumeist als der Weg aufgefaßt zu werden, der zum Sprachtod führt, also ein kontinuierlicher Zerfall, der in den Tod führt, mit dem Tod enden muß. Wir werden aber noch sehen, daß Verfall im Leben der Sprache ebensowenig wie im Leben der Völker notwendigerweise in den Tod einmünden muß. Er kann aufgehalten werden, die Entwicklung kann sozusagen umgedreht, oder wenigstens von der Todesfalle abgelenkt werden. Darüber hinaus kann aber "Verfall" auch bloß den Prozess der Vereinfachung bezeichnen, der in vielen Sprachen im Laufe ihrer Geschichte eingetreten ist. Sprachtod ist also eindeutig, Sprachverfall dagegen bleibt zwei- oder mehrdeutig.

Beide, sowohl Sprachtod wie auch Sprachverfall, sind bisher nicht sehr systematisch untersucht worden, ihr Studium liegt noch in den Anfängen. Dennoch kann man sagen, und schon a priori erwarten, daß ihr Studium wohl ebenso viel unerwartetes Licht auf das Leben und den Aufbau der Sprache werfen wird, wie das Studium der Aphasie es getan hat.

I.

1. Nun zunächst einige klinische Fälle und die Beobachtungen, die

an ihnen gemacht werden konnten.

1.1. Eines der tragischsten Opfer eines mutwillig und aus Selbstsucht herbeigeführten Sprachtodes war das *Tasmanische*, die Eingeborenensprache von Tasmanien.¹ Diese kleine Insel, nur 200 km südlich von der südöstlichsten Ecke Australiens, sagen wir Melbourne, gelegen, wurde 1642 von dem Holländer Abel Jans Tasman entdeckt, aber erst 1803 von den Engländern kolonisiert. Schon 1804 erfolgte ein schwerer Zusammenstoß mit den Ureinwohnern, als Soldaten auf eine Gruppe von Eingeborenen schossen, die auf einer Känguruhjagd waren, angeblich weil sie dachten, sie wären das Ziel der Attacke gewesen. Racheakte folgten beiderseits und 1825 fingen die Kolonisten ernstlich mit dem Plan an, die Eingeborenen aus dem Wege zu räumen. Auch wenn dies nicht als ein systematischer Ausrottungskrieg gemeint war, wie Pater Schmidt es bezeichnet, war es im Endeffekt doch damit identisch. Denn von der 1803 noch sechs oder sieben tausend Köpfe zählenden Urbevölkerung waren 1835 nicht mehr als 203 Personen übrig, die auf die nordöstlich gelegene Flinders-Insel gebracht wurden. 1847 waren nur noch 44 am Leben, und 1854 bloß 16: 3 Männer, 11 Frauen, 2 Kinder. Der letzte Tasmanier starb 1865, die letzte Tasmanierin 1876.

Kaum 73 Jahre nach der Ankunft der ersten Kolonisten waren also die Tasmanier und das Tasmanische aus der Welt geschafft. Wie bei vielen Indianerstämmen kann man auch hier nur von einem richtigen Völkermord sprechen, und bei der Sprache auch nicht von einem Sprachtod, sondern von einem Sprachmord.

Von der Sprache, deren Verwandtschaftsverhältnisse noch immer nicht ganz geklärt zu sein scheinen, ist so wenig bekannt, daß man die Fragen, die uns interessieren, z.B. die Veränderungen, die bis

¹Für das Folgende siehe die zum Teil voneinander abweichenden und sogar widersprüchlichen Berichte von Swadesh (1948:226f.) und Schmidt (1952:711).

zum Tod eintreten, gar nicht stellen kann.

1.2. Noch kürzer war der Leidensweg des *Yahi*, einer Indianersprache im Norden Californiens (siehe Swadesh 1948:227-29). Er fing im J. 1857 mit "*Indian Troubles*" an, die zu Repressalien führten. Nach 1871 war von den Indianern kaum noch etwas zu hören oder sehen, aber von Zeit zu Zeit kamen trotzdem Nachrichten, daß sie gesichtet wurden. 1911 wurde bei Oroville, nördlich von Sacramento, ein nackter, ausgehungert Indianer gefunden. Er war der letzte Yahi, der, von Hunger getrieben, hier etwas zu essen suchte. Er wurde an die Universität in Berkeley gebracht, und obwohl er nur seine eigene Sprache verstand, gelang es Waterman, den Kode zu brechen, und er, später auch Sapir, hat vieles von der Sprache feststellen können, bevor der Indianer 1916 starb.

Yahi brauchte also von der Entdeckung bis zum endgültigen Verschwinden im ganzen 59 Jahre.

2. Während in diesen beiden Fällen von einem gewaltsamen Ende der Sprache, von einem Sprachmord, gesprochen werden muß, ist der Tod in folgenden Fällen nicht auf diese Weise eingetreten.

2.1. Die britische Gruppe des Inselkeltischen hat heute nur noch zwei Glieder, das in Wales gesprochene Kymrische und das um die Mitte des 1. Jahrtausends nach dem Kontinent re-exportierte Bretonische der Bretagne. Aber früher gab es im Südwesten Englands, in Cornwall, ein drittes Glied, das *Kornische* (vgl. Swadesh 1948:229).

Noch Anfang des 17. Jahrhunderts gab es in Cornwall Gegenden, in denen nur Kornisch gesprochen wurde. Das wurde jedenfalls 1644 von Richard Symonds behauptet:

about Pendennis [near Falmouth] and the Land's End they speak no English.

Aber um dieselbe Zeit wurde von John Norden auch schon das Vordringen des Englischen beobachtet, denn er konnte feststellen, daß im Osten, sogar östlich von Truro, Englisch gebraucht wird, während

in the West parte of the county...is to be marvelled that though husband and wife, parents and children, master and servauntes, doe mutually communicate in their native language, yet there is none of them but...is able to converse with a stranger in the English tongue.

Und zwei Generationen später berichtet Edward Lhuyd, der große Erforscher keltischer Altertümer, in seiner 1707 erschienenen *Archaeologia Britannica*, daß viele Leute, besonders der Landadel, kein Kornisch verstehen und daß jeder Einwohner von Cornwall Englisch kann.

Und nach zwei weiteren Generationen, im J. 1777, starb im Alter von 102 Jahren Mrs. Dolly Pentreath, die Frau, die traditionell als die letzte Person beschrieben wird, die noch Kornisch sprach. Aber das kann nur so verstanden werden, daß sie als letzte fließend Kornisch sprach. Denn sogar noch aus dem J. 1875 wird berichtet, daß sechs Leute von 60 Jahren oder noch älter, in einem Interview befragt, Kenntnis von ungefähr zwanzig kornischen Wörtern aufwiesen; sie konnten auch drei Sätze aufsagen, die sie aber nur sehr vage verstanden.

Hier wird also zum ersten Mal das ständige Zurückweichen einer Sprache beobachtbar, und zuletzt das endgültige Ausscheiden. Die Gründe, die nicht überliefert sind, werden später noch durchsichtiger werden.

2.2. Ebenso wenig wie beim Kornischen sind die Möglichkeiten einer sprachwissenschaftlichen Auswertung des Aussterbens bei einer weiteren keltischen Sprache, dem *Manx*, ausgenützt worden. Manx, auf der Insel Man zwischen England und Nordirland gesprochen, gehört zur sog. gälischen Gruppe des Inselkeltischen, zu der noch das Irische und das Schottisch-Gälische gehören.

Als Kenneth H. Jackson die Insel kurz nach Weihnachten 1950

besuchte, lebten noch zehn Leute, die Manx sprechen konnten, aber als das Manuskript seines Buches zum Drucker ging (1955), waren vier von ihnen schon tot. Der jüngste von den zehn starb im J. 1975 im Alter von 97 Jahren und damit ist eine weitere keltische Sprache verloren gegangen (siehe hierzu Jackson 1955:2; und Ternes 1978:195, Fn. 3).

3. Was nun den Sprachwissenschaftler in erster Linie interessieren würde, ist, was in solchen Fällen geschieht, sowohl was das sprachliche System anlangt, wie auch die Verwendung der Sprache. Auf diese Fragen haben nun einige neuere Untersuchungen willkommenes Licht geworfen.

3.1. In mehreren Arbeiten hat *Wolfgang Dressler* bretonische Dialekte an der Nordküste (in der Umgebung von *Lannion*) von diesem Gesichtspunkt aus untersucht. In *Buhulien* hat er feststellen können (1972: 449f.), daß die für das Bretonische, wie für jede keltische Sprache, so wichtigen Anlautmutationen bei der jüngeren Generation (: teenagers!) zum Teil oder ganz verloren gegangen sind. Bei den zwei Regeln der Spirantisierung und Provektion-Lenition kann man "four to seven stages in the reduction and deletion" beobachten (vgl. auch Dressler 1977:31). Er findet auch, daß *lexical fading* (der Gegensatz zu *lexical diffusion*) von Wichtigkeit ist: "lexical fading may progress very slowly at the beginning, and then may expand very rapidly a minor loss to a major loss" (453). Wichtig ist also die Rolle von *rule loss*, Regelverlust.

Im Dorf *Trélévern* ergab sich im J. 1971 aufgrund von 658 Antworten bei einer Einwohnerzahl von 899 das folgende Bild (siehe Dressler & Wodak-Leodolter 1977b:34):

Bretonisch als einzige Sprache wurde nur von Leuten über 50 (im ganzen 15 Personen) gebraucht;

Bretonisch und Französisch von ungefähr der Hälfte der Einwohner (325 Personen);

Von den übrigen Einwohnern wurde das Bretonische kaum oder überhaupt nicht gebraucht, über ein Viertel (171) verstanden Bretonisch gar nicht.

Der steile Niedergang im Gebrauch des Bretonischen ist in erster Linie dem Konflikt der Statusrollen zuzuschreiben; primäre Sozialisierung kann im Bretonischen stattfinden, aber in der sekundären kommt eigentlich nur das Französische in Frage (40). Wichtig und überraschend ist, daß Frauen eher Französisch sprechen als Männer, denn gewöhnlich scheinen die Frauen die Sprache zu erhalten und zu übermitteln.

Aufgrund dieser Indizien könnte man voraussagen, daß das Bretonische dem Sprachtod entgegengeht (35). Aber diese Voraussage kann sich sehr leicht als falsch herausstellen, wenn der Nationalismus, besonders der jüngeren Bretonen sich auch auf die Sprachfrage auszuwirken beginnt.

3.2. Zu teilweise abweichenden Resultaten kommt die amerikanische Keltologin *Nancy C. Dorian*, die bei wiederholten Besuchen den Niedergang des Schottisch-Gälischen in dem Dorf *Embo* an der Nordostküste von Schottland (bei Dornoch) untersuchte. In diesem Dorf mit 275 Einwohnern ist das Gälische noch ziemlich lebensstark, denn 140 Personen sprechen (oder sprachen 1972) noch den Dialekt (Dorian 1977: 24). Aber der Dialekt befindet sich in einem raschen Wandel, bemerkbar in der *Passivkonstruktion* und in dem *Kasussystem* (Dorian 1973: 413f.). Dieser Wandel ist so rasant, daß zwischen den ältesten und den jüngsten fließend sprechenden Mitgliedern der Gemeinde sehr markante Abweichungen zu beobachten sind, obwohl die Zeitspanne kaum 40 Jahre beträgt, da die "jüngsten" schon 40 überschritten haben, und die ältesten 70-80 Jahre alt sind (Dorian 1973:414).

Die Anlautmutationen bieten im allgemeinen dem Wandel zähen Widerstand. Die Ausnahmen sind die beiden schon genannten Gebiete. Das Passivum ist eigentlich eine Nominalphrase, ein Possessivpronomen plus ein Verbalnomen, z.B. mein-Gehalten-werden = ich werde gehalten. Je nach dem ursprünglichen Auslaut des Possessivums erleidet der Anlaut

des Verbalnomens Lenition, Nasalierung oder Geminierung, z.B.

{e ^L kumaI}	/ə xumaI/	"er wird gehalten"
{e ^G kumaI}	/ə kumaI/	"sie wird gehalten"
{e ^N kumaI}	/ə gumaI/	"sie werden gehalten"

Dies ist natürlich ein kompliziertes Spiel. Kein Wunder, daß der Verfall zur Beseitigung der Alternanzen führt, in diesem Falle so, daß die Lenition für alle Numeri und Personen verallgemeinert wird (Dorian 1973:426).

Beim Kasussystem geht es um den Artikel und das folgende Nomen. Hier scheint die Entwicklung von einer Alternanz zwischen Lenition und Nasalierung innerhalb eines Paradigmas in Richtung auf ein invariables System zu verlaufen, in dem durchgehende Nasalierung für das Maskulinum, Lenition für das Femininum die Regel wird (Dorian 1973:434).

Das allgemeine Ergebnis ist also, daß die *Mutationen* bewahrt werden, daß sie aber, besonders in gewissen Kategorien, *vereinfacht* werden.

Wie Dressler in Trélêvern konnte auch Nancy Dorian in Embo feststellen, daß unter den 140 Gälisch-Sprechern einige sich im Gälischen mehr zuhause fühlten als im Englischen, viele waren in beiden Sprachen geschickt, und am unteren Ende der Skala waren die, die sich zwar noch in einem fehlerhaften Gälisch ausdrücken konnten, aber viel besser mit dem Englischen umzugehen vermochten.

Diese letzte Gruppe nennt die Verfasserin *semi-speakers*, und sie weist nach, daß diese Sprecher von der Gemeinschaft sehr richtig eingeschätzt und eingestuft werden. So werden eine siebzigjährige Frau B. R. und ihre ältesten Kinder bis hinunter zum vierten, dem 45 Jahre alten Sohn A. R. für gut in Gälisch gehalten. Aber die nächstfolgende Tochter J. R., obwohl nur ein Jahr jünger, gilt als nicht ganz fließend sprechend. Bei einem Test hat sich dieses Urteil der Gemeinschaft auch bestätigt, und zwar besonders schlagend im Hinblick auf das Verhalten zu Unregelmäßigkeiten. Um nur einiges zu nennen, von 17 unregel-

mäßigen nominalen Pluralbildungen hatte die Mutter alle korrekt, der Sohn 15, die Tochter nur 9. Bei 16 unregelmäßigen Verba waren die Zahlen 16, 16, 13 (Dorian 1977:26). Und ganz allgemein konnte festgestellt werden, daß die schwache Sprecherin durch die große Anzahl von Analogiebildungen auffiel.

All diese Beobachtungen bestätigen nach Nancy Dorian (1977:23 f., 29) die Vermutung von Mary Haas, daß eine Sprache, die nur von einem letzten, isolierten Sprecher gesprochen wird, ist "a mere remnant of what the language must have been when many speakers used it as their only means of communication". Dies kann auch etwas anders formuliert werden: "the reduced use of a language will lead to a reduced form of that language", oder, wie ich das ausdrücken möchte: weniger Sprechen führt zu weniger Sprache, d.h. zu einer reduzierten Sprachstruktur.

3.3. Fast am anderen Ende des indogermanischen Spektrums hat der Berner Iranist *Charles Kieffer* das Problem unter dem traurigen, aber wahrscheinlich zutreffenden Titel untersucht: *The Approaching End of the Relict South-East Iranian Languages Ōrmuṛi and Parāč̌i in Afghanistan*. Von beiden prophezeit er, daß sie "are doomed to disappear in the near future".

Ōrmuṛi wird an zwei Orten gesprochen, aber nur an einem hart bedrängt, nämlich in der Nähe von *Baraki-Barak*, ca. 80 km südlich von Kabul, wo 300-400 Ōrmuṛ auf mehreren *qala* genannten befestigten Höfen leben. Kaum 50 von ihnen sprechen noch Ōrmuṛi, sie sind zu meist Erwachsene oder sogar alte Leute. Einige jüngere Leute verstehen die Sprache noch, aber sprechen sie nicht mehr.

Alle Ōrmuṛi-Sprecher sind zwei- oder dreisprachig, und weg vom väterlichen Hof sprechen sie fast nur Pašto oder Kabul-Persisch (75). Radio und Wirtschaft tragen dazu bei, daß der Gebrauch des Dialekts immer mehr beschränkt wird und daß er von den anderen Sprachen kontaminiert wird: der Wortschatz besteht zu 90% aus Entlehnungen vom Pašto und Persisch, die Morphosyntax weist tiefgehenden fremden Ein-

fluß aus.

Parāči, in drei Hindukusch-Tälern nördlich von Kabul gesprochen, zeigt ebenfalls klare Symptome des Verfalls. Im Šotoł-Tal ziehen die Jüngeren in die Städte und verachten die Älteren, weil sie in der Heimat bleiben; sie weigern sich auch, Parāči zu sprechen. In den beiden anderen Tälern (Ghočulān und Pačaghān) ist die Lage anders, da sie noch Autarkie ermöglichen, aber sie werden bald denselben Weg gehen wie Šotoł (91-92).

Wie sehr die Entwicklung von der wirtschaftlichen Lage bestimmt wird, zeigt das Schicksal des Örmuri an dem zweiten Ort, *Kānig(u)ram*; dies ist ein Dorf in der Provinz South Waziristan in Pakistan (NW von Dera Ismail Khan), wo ungefähr tausend Sprecher des Örmuri leben. Sie sind aber eine wohlhabende Gemeinschaft und ihre Sprache hat eine dominante Stellung gegenüber anderen Sprachen.

3.4. Wie sehr hier allgemeine Tendenzen vorliegen, zeigen am augenfälligsten einige weitere westeuropäische Fälle.

Frau *Brigitte Schlieben-Lange* hat 1972 die graduelle Aufgabe des Provenzalischen in der Kleinstadt *Bagnols-sur-Cèze* westlich von Orange untersucht. Sie fand drei Faktoren von Bedeutung (Schlieben-Lange 1977:104 f.):

1. *Herkunft*: der Dialekt ist besser erhalten, wenn die Personen vom Lande kommen und/oder Beziehungen zum Lande haben.
2. *Generationen*: Großeltern (60 und älter), wenn sie vom Lande stammen, sprechen Provenzalisch fließend; Eltern (40-60), besonders Frauen, selten; sie verheimlichen sogar ihre Kenntnis der Sprache; jüngere Leute (bis 40) haben keine praktische Übung mehr, aber sie haben auch nicht das Gefühl, daß sie ihre Herkunft und Sprache verleugnen müßten, im Gegenteil manche haben das Gefühl, daß ihnen etwas vorenthalten wurde und versuchen, es von ihren Großeltern zu bekommen.
3. *Geschlecht*: Männer sind konservativer -- einige sind fast ganz einsprachig; Frauen dagegen, die früher als konservativ galten, sind viel mehr daran interessiert, wie sie und ihre Kinder gesellschaftlich vorankommen können.

Diese letztere Erscheinung steht aber schon in Zusammenhang mit dem Erwachen oder Wiedererwachen des okzitanischen Nationalismus, den hier (wie auch in der Bretagne) jeder Autofahrer für sich selbst sehen kann.

3.5. Ein Amerikaner, *Richard K. Seymour*, hat ab 1957 über längere Perioden die Verhältnisse in dem Dorf *Nienberge* erforscht. Das Dorf liegt 7 km NW von Münster und hatte 1966 ca. 1800 Einwohner. Früher war es eine ländliche Gemeinschaft, nach dem letzten Krieg wurde es allmählich zu einem Vorort von Münster, jetzt ist es einverleibt.

Dieser Faktor und die große Zahl von Flüchtlingen aus dem Osten, den sog. Zugezogenen, hat den westfälischen Dialekt erschüttert. Aber die Veränderung läuft nicht so sehr auf eine Absorption des Neuhochdeutschen hinaus, sondern auf eine gewisse Anpassung, nicht Substitution. Im Verbalsystem z.B. war das Präteritum von *singen* 1913 noch *sang* ~ *süngen*, jetzt ist es *sang* ~ *sangen*, von *kriegen* 1913 *kre:x* ~ *krieyen*, heute *kre:x* ~ *kre:yen*, usw.

Dies kann also wieder als Vereinfachung oder sogar als *Regelverlust* aufgefaßt werden.

3.6. Aber diese Auffassung, besonders in der Form, in der sie Dressler (1972) für das Bretonische vertreten hat, ist nicht ohne Widerspruch geblieben. Der Grazer Linguist *Norman Denison* hat an dem deutschen Dialect von *Sauris* im Nordosten Italiens (deutsch die *Zahre*, NW von Udine und südlich von Lienz) gezeigt, daß man auch, oder eher, mit *rule addition* (17) oder "substitution of the rules of the interfering language for the native rules" (20) rechnen muß. In diesem Dorf wird neben einem archaischen deutschen Dialekt eine friaulische Mundart und die italienische Hochsprache verwendet. Die Beeinflussung verläuft fast ausschließlich in der Richtung Italienisch → Friaulisch → Deutsch.

So hat der Dialekt zwei Regeln für Bildung des Plurals von Substantiven übernommen. Aus dem Friaulischen stammt die Regel, daß an

italienische und friaulische Entlehnungen jüngerer Datums *-s* antritt (z.B. *də maestra-s* "die Lehrerinnen"); ebenso die Regel, daß friaulische Lehnwörter auf *-l* wie auch italienische Maskulina *-i* annehmen (z.B. *də fazui* "Fisolen", *də žormali:šti*).

Aufgrund derartiger Beobachtungen stellt sich die Frage, ob dieser Prozess des Regelverlustes oder Regellersatzes, wenn er weit genug fortgeschritten ist, zu einem *Sprachtod* führen kann, und weiter: ob Sprachen gewöhnlich auf diese Weise "verschwinden"? Denison (1977:21-2) meint, daß soziolinguistisches field-work eher darauf führt, daß der Sprachtod ein *Sprachselbstmord* ist:

there comes a point when multilingual parents no longer consider it necessary or worthwhile for the future of their children to communicate with them in a low-prestige language variety...The languages at the lower end of the prestige scale retreat from ever increasing areas of their earlier functional domains...until there is nothing left for them appropriately to be used about. In this sense they may be said to "commit suicide". Languages die not from loss of rules, but from loss of speakers. ...The direct cause of "language death" is seen to be social and psychological: parents cease transmitting the language in question to their offspring.

3.7. Viele interessante Beobachtungen werden natürlich auch an nicht-indogermanischen Sprachen gemacht und deshalb möchte ich noch zwei Beispiele aus Nord-Amerika anführen.

3.7.1. In einem gründlichen Aufsatz über *Language Death, Language Contact, and Language Evolution* beschäftigt sich Jane H. Hill hauptsächlich mit den den Sprachtod begleitenden sozialen und linguistischen Umständen und mit der Frage, wie sich die Sprachstruktur selbst verändert.

Das Material kommt von zwei Uto-Aztek Indianersprachen Südkaliforniens, dem *Cupeño* und dem *Luišeño*. Dokumentation aus den letzten 40 Jahren zeigt, daß die modernen Sprecher kurze Sätze vorziehen, die nur ein *surface predicate* haben; sie vermeiden die

untergeordneten Sätze, die vor 40 Jahren noch sehr häufig waren. Es ist klar, daß diese Unterschiede mit dem Sprachverfall, wenn nicht Sprachtod, in Verbindung stehen und zur gleichen Zeit auch die zunehmende Bedeutung des Englischen verraten (46).

1960-65 gab es 8 Cupeño-Sprecher, 4 Männer und 4 Frauen, alle wohl fast 70 oder noch älter. Luiseño wurde von 100 bis 200 Sprechern gesprochen, die meisten mittleren Alters oder älter. Wahrscheinlich war kein Sprecher einsprachig, eher drei- oder sogar viersprachig (47). Cupeño-Sprecher (1962) "controlled the structure of the language well, [but] they had lost a good deal of vocabulary" (50). Luiseño wurde gelegentlich sogar bei öffentlichen Veranstaltungen verwendet; es wurde wahrscheinlich von den kleinen Kindern erlernt, aber im Schulalter nicht benutzt.

3.7.2. Mein zweites Beispiel kommt aus Nordkalifornien und betrifft die Indianer-Sprache *Eastern Pomo*, die nördlich von San Francisco um den See *Clear Lake* gesprochen wurde und wird.

Die Geschehnisse der Sprache und der Sprecher wurden jüngst von *Sally McLendon* unter dem allgemeineren Gesichtspunkt *How Languages Die: A Social History of Unstable Bilingualism among the Eastern Pomo* behandelt. Vor den Berührungen mit europäischen Siedlern, etwa um 1830, kann die Zahl dieser Pomos um 3000 gewesen sein. Aber 70 Jahre später, in der Volkszählung von 1900, waren es nur noch 287, also weniger als 10% (144). Bis 1976 ist die Zahl derer, die Eastern Pomo als erste Sprache gelernt hatten und es noch, wenn nötig, fließend sprachen, auf 20 bis 25 gesunken. Aber auch hier muß man noch weiter einschränken: eigentlich sind es nur die zwei Ehepaare, in denen beide Partner Eastern Pomo können, die normalerweise mehr, oder wenigstens ebenso oft, diese Sprache benützen als das Englische.

Several of the other potentially fluent speakers prefer to use English in all communicative situations, the rest usually find it necessary [!] to use English, except when speaking to

the other handful of potential speakers (which they generally do infrequently unless they are neighbors). No amount of goodwill or effort on the part of individual speakers seems able to reverse the process now, and although speakers frequently express interest in seeing the language continue to be spoken, they find themselves daily using it less and less. (146)

Auch hier bewahrheitet sich also, was wir schon oben feststellen konnten (3.6), daß nämlich die Sprache abstirbt, weil sie nicht mehr benutzt wird. Wie die Verfasserin das so packend ausdrückt (148):

the few surviving speakers of a language discover they no longer have sufficient occasions which permit the use of that language because so few other individuals speak it and for a variety of reasons -- such as lack of contact because of distance, or lack of compatibility or downright dislike -- they rarely talk with the few individuals who are still able to speak it. *They do not turn mute, however. Rather they turn to the contacting language in an ever-expanding number of speech situations, and the "dying" language ceases to be spoken not from lack of speakers but from lack of use [my italics].*

4. Wenn wir nun versuchen, aus diesen Einzelbeobachtungen einige allgemeinere Sätze darüber abzuleiten, was eigentlich beim Sprachverfall und Sprachtod vor sich geht, können wir vielleicht, wenn wir den Fall des Sprachmordes als, hoffentlich, einen Ausnahmefall beiseite lassen, die folgenden Punkte festhalten.

4.1. Nur Sprachen von Minderheiten werden vom Sprachtod bedroht; dies bedeutet, daß die Sprecher zahlenmäßig unterlegen und zugleich unterprivilegiert, benachteiligt sind.²

²Dressler & Wodak-Leodolter 1977a:9: "This view does not appear to be correct".

In einer zwei- oder mehrsprachigen Gemeinschaft ist es im allgemeinen so, daß "the language (variety) most threatened is the one most lacking in social prestige" (Denison 1977:16).

4.2. Der Abstieg zeigt sich in der Verwendung der Sprache: sie wird immer mehr auf die älteren Altersgruppen beschränkt, immer weniger von den jüngeren gebraucht (Schlieben-Lange 1977:105; Hill 1978:47); "dying languages cease to be utilized for primary socialization" (Dressler & Wodak-Leodolter 1977a:8).

Damit Hand in Hand geht die immer häufigere und intensivere Verwendung einer anderen Sprache oder sogar mehrerer anderer Sprachen.

4.3. Die Endphase, Sprachtod, tritt ein, wenn die Älteren aussterben und keine Jüngeren mehr da sind, die die Sprache verwenden, oder verwenden könnten.

Ist das aber Tod? Oder ist es, wie gesagt wurde (Denison 1977: 21 f.), *Selbstmord*? Es kann sicher vorkommen, daß die Eltern meinen, sie dürften nicht die Chancen ihrer Kinder durch eine benachteiligte Sprache verringern oder sogar verbauen. Aber das ist nur die Hälfte der Wahrheit: nicht nur die Eltern können aufhören, ihre Muttersprache den Kindern weiterzugeben, es können auch die Kinder sich gegen eine Sprache auflehnen, die ihnen nur Verachtung und Nachteile einbringt. Ich denke hier besonders an Kieffers Beobachtungen, aber ich kann einen weiteren Fall hinzufügen: die Kinder eines befreundeten Ehepaares spielten im Alter von 4 und 5 Jahren im New Yorker Central Park und unterhielten sich in der Sprache ihrer Mutter, dem Finnischen. Sie merkten bald, daß sie von anderen Kindern gemieden wurden, und dies führte zu einer Vermeidung der Muttersprache.

4.4. Eine wesentliche Bedingung des Sprachtodes scheint zu sein, nicht nur daß die Sprache von einer Minderheit gesprochen wird, sondern auch, daß die Minderheit physisch umringt, von einer dominanten Sprachgemeinschaft umgeben ist. "Only as the community is surrounded and absorbed

into a larger community, does it tend to drop its own language and to take on that of the larger group" (Swadesh 1948:234A). Vgl. dazu die Lage in Sáuris oder die Aufsaugung der Franken im ersten Jahrtausend durch die umgebenden (und zunächst besiegten!) Gallo-Romanen.

4.5. Ein Experte für Minderheitssprachen hat die These aufgestellt, daß alle kleinen Sprachen in der nahen Zukunft aussterben werden (Kloss 1969:293 f.; Dressler & Wodak-Leodolter 1977a:5). Möglich -- aber das Aufleben der nationalistischen Strömungen in Westeuropa und anderswo kann solche Prophezeiungen noch Lügen strafen.

4.6. Was die Sprachstruktur selbst angeht, so kann zunächst ganz allgemein festgestellt werden, daß in einem Zustand der Diglossia (wenn zwei Sprachen oder zwei Varianten einer Sprache nebeneinander gebraucht werden) die nicht-dominante Sprache in den letzten Phasen ihrer Existenz normalerweise *pidginisiert* wird (Dressler & Wodak-Leodolter 1977a: 6; Dressler 1977:32). In einem gewissen Maße ist das bei allen west-europäischen Sprachen in ihrem Verhältnis zum Amerikanischen der Fall. Das kann am Deutschen beobachtet werden, ist aber auch in dem umvergeßlichen *franglais* von General de Gaulle sehr plastisch verewigt.³

4.7. Alle Teile der Grammatik und der Sprache im allgemeinen sind während des Prozesses dem Verfall ausgesetzt (Dressler & Wodak-Leodolter 1977a:9). Hier entsteht aber eine Frage. Werden alle Ebenen gleichzeitig in Mitleidenschaft gezogen oder gibt es eine Hierarchie des Verfalls, etwa, daß zuerst das Lexikon, dann die Phonologie und Morphologie, und als allerletztes die Syntax angegriffen wird? Diese

³Nach der englischen Wochenschrift *The Economist* (26 January, 1980, S. 55) hat die französische Regierung jetzt den Kampf gegen *franglais* und allgemein gegen das Anglo-Amerikanische aufgegeben und möchte nur die Rolle als zweite Weltsprache (!) verteidigen.

Frage wurde bejaht (Ruoff 1973:51), aber auch verneint (Dressler & Wodak-Leodolter 1977a:9). Aber im Hinblick auf die Feststellung von Jane Hill (1978:50), daß Cupeño-Sprecher die Grammatik noch gut beherrschten, dagegen einen guten Teil des Lexikons verloren hätten, kann die Frage nicht als entschieden gelten, sie muß vielmehr noch sehr genau untersucht werden.

4.8. Bisher ist sehr wenig Konkretes über den Verlauf des Verfalls bekannt. Beobachtungen wie die, daß Sätze gekürzt werden, daß Unterordnungen vermieden werden, sind eine Rarität. Anstrengungen müssen auch in dieser Richtung gemacht werden.

4.9. Von großer Bedeutung scheint mir die Formel (siehe oben 3.2):

*reduced use of a language will also lead to
a reduced form of that language.*

II

5. Die eben erwähnte Pidginisierung Westeuropas durch das Amerikanische bringt uns aber zurück auf die Eingangs schon angedeutete Tatsache, daß Verfall auch ohne Endergebnis Tod im Nebeneinander von Sprachen eintreten kann. Verfall ist also hier eigentlich im Sinne von Umgestaltung zu verstehen, wobei auch angenommen wird, daß diese Umgestaltung mit einer Vereinfachung des Systems (wenigstens auf einigen Gebieten) Hand in Hand geht.

Für einen wichtigen, wenn auch nicht den einzigen Aspekt dieses Problems dürfte es nützlich sein, eine These betreffend den Übergang des Altiranischen in das Mitteliranische kurz zu analysieren.

6. In einer ausgezeichneten Übersicht hat Antoine Meillet 1912 dem gelehrten Publikum seines Landes ein Panorama der indogermanischen Sprachen geboten, die kürzlich in Asien entdeckt worden waren. Das

Gros der Funde war in iranischen Sprachen geschrieben, von denen bald vier identifiziert werden konnten. Zwei stellten die südliche, bzw. nördliche, Variante des Westiranischen dar, die südliche war identisch mit dem sogenannten Pahlavi und wird heute als Mittelpersisch bezeichnet, die nördliche war das (Mittel)Parthische. Der dritte iranische Dialekt wurde von dem durch Lou Salomé breiteren Kreisen bekannt gewordenen Göttinger Iranisten Carl Friedrich Andreas als Sogdisch erkannt, von dem bis dahin nur die Monatsnamen bekannt waren. Die Existenz des vierten Dialekts wurde vorher nicht einmal geahnt: es war eine komplette Überraschung, daß in dem Königreich von Khotan in der Mitte von Chinesisch Turkestan (heute Sinkiang) eine iranische Sprache der Saka-Völker, die heute sehr passend als (Khotan-)Sakisch bezeichnet wird, im ersten Jahrtausend n.Chr. gesprochen wurde.

Meillet war nun überzeugt, daß der Zustand, der in der sprachlichen Entwicklung innerhalb des iranischen Reiches beobachtet werden konnte, eine wichtige allgemeine Lehre für die Theorie der diachronen Sprachwissenschaft beinhalte. Er hat nämlich festgestellt, daß alle vier Varianten des Iranischen zur Zeit, als sie aufgezeichnet wurden, d.h. in den ersten Jahrhunderten unserer Zeitrechnung "einen außerordentlich fortgeschrittenen Grad des Verfalls und der Entwicklung" (Meillet 1912:150) erreicht haben. Welchen Dialekt man auch betrachtet, eines wird immer wieder klar: das Iranische war schon im 1.Jh. n.Chr. in mancher Hinsicht "ebenso fern und vielleicht noch ferner vom alt-indogermanischen Typus wie die heutigen romanischen und germanischen Sprachen. Nirgends auf dem Gebiet des Indogermanischen war die Entwicklung so rasch wie im Iranischen" (ebenda).

Aber nach Meillets Ansicht können wir einen wichtigen weiteren Schritt tun, wir können für diese unerwartet rasche Entwicklung auch eine Erklärung finden: "Die Erklärung für diese Tatsache liegt ohne Zweifel darin, daß das Iranische die erste indogermanische Sprache war, die im Dienste eines großen Reiches, des Reiches der Achämeniden, stand und daß die aufeinander folgenden Eroberungen und besonders die Gründung des Achämenidenreiches das Iranische über ein Riesengebiet

verbreiteten" (S. 151).

Noch präziser kann man sagen, daß der Grund für diese überraschende Entwicklung in der beträchtlich geänderten Rolle der Sprache lag:

Zur Sprache eines Reiches zu werden, ist für eine Sprache die ernsteste Krise: ...verschiedenen Völkern aufgedrängt und über weite Gebiete als Kommunikationsmittel dienend, mußten sich die iranischen Dialekte zwangsläufig schnell verändern. Während jener Perioden, in denen die Macht zersplittert war und das Land zum Teil unter fremder Herrschaft war..., waren die erhaltenden Kräfte geschwächt oder gar ganz zerstört. Die Folge war, daß im ersten Jahrhundert n.Chr., schon vor der sassanidischen Zeit, die verschiedenen iranischen Dialekte weiter entwickelt waren als fast alle anderen Sprachen der indogermanischen Sprachfamilie zur selben Zeit... (ebenda)

Die Grundideen können also wie folgt zusammengefaßt werden:

1. Die verschiedenen iranischen Dialekte zeigen als das Ergebnis einer ungewöhnlich schnellen Entwicklung seit dem Anfang unserer Zeitrechnung einen Zustand des Verfalls, der mehr fortgeschritten ist als irgend etwas, was wir aus den romanischen oder germanischen Sprachen kennen.
 2. Diese rasche Entwicklung erklärt sich dadurch, daß mit der Gründung des Achämenidenreiches das Iranische sich über riesige Gebiete verbreitete und so eine Reichssprache wurde, die erste in der Geschichte der indogermanischen Sprachen, die diese Rolle übernahm.
 3. Die Sprache eines Großreiches ist von tödlichen Gefahren bedroht. Auf unverwandte Völker oktroyiert, als Kommunikationsmittel auf riesigen Gebieten verwendet, wurden die erhaltenden Kräfte der iranischen Dialekte verwässert und geschwächt, was zu ihrer beschleunigten Entwicklung oder besser gesagt zu ihrem Verfall führte.
7. Nach der beharrlichen und oft brillanten Arbeit von zwei Generationen von selbstlosen Forschern haben wir natürlich heute eine viel breitere und viel genauere Kenntnis von den verschiedenen iranischen Dialekten als es im zweiten Jahrzehnt unseres Jahrhunderts möglich war. Aber gerade deshalb ist es wichtig zu prüfen, ob Meillet's Thesen auf-

rechterhalten werden können oder modifiziert werden müssen. Eine kurze Übersicht der frühen iranischen Dialekte, die uns heute bekannt sind, dürfte uns dabei Hilfe leisten.⁴

7.1. Von den zwei westiranischen Dialekten ist *Parthisch*, die Sprache des Arsakidenreiches als erster bezeugt. Schon im ersten Jahrhundert v.Chr. erscheint das Parthische auf zahlreichen Ostraka, die bei Nisā, in der Nähe von Ašxabad, der Hauptstadt von Turkmenistan, gefunden wurden. Dann folgt das Awroman Pergament aus dem Jahre 50 n.Chr. Aber sprachwissenschaftlich nützliche, auswertbare Texte, und nicht nur Folgen von aramäischen Ideogrammen erscheinen das erste Mal in den Inschriften des 3. Jahrhunderts n.Chr., denen dann bald die viel zahlreicheren manichäischen Denkmäler folgen.

7.2. *Mittelpersisch*, die Sprache der Persis, der Heimat der Sassaniden, erscheint wiederum in einer sprachwissenschaftlich nützlichen Form zum ersten Mal im 3. Jahrhundert n.Chr. auf Inschriften, denen dann wieder reichliche manichäische Texte aus Turfan folgen, von der großen zoroastrischen Literatur nicht zu sprechen, die in Pahlavi-Schrift aufgezeichnet und überliefert worden ist.

7.3. *Sogdisch*, die Sprache der Sogdier, ist in einem geringen Ausmaß aus der Heimat Sogdiana (besonders aus Samarkand, Bukhara und von dem Berg Mugh) bekannt, aber das Gros unseres Materials kommt aus Turfan und Tun-Huang in Chinesisch Turkestan, wo sogdische Flüchtlinge sich niederließen, nachdem ihre Heimat von Alexander dem Großen zerstört wurde.

⁴Für das Parthische und Mittelpersische siehe Henning 1958:27 f., 40 f., 43 f.; über das Sogdische Dresden 1970:35 f.; über die alten Briefe Henning 1958:55, Harmatta 1979:159, 164 f.; über Khwaresmisch Henning 1966; über Baktrisch Gershevitch 1967, Harmatta 1969; über Khotansakisch Dresden 1970:38 f., Emmerick 1968.

Die frühesten Aufzeichnungen in sogdischer Schrift erscheinen auf Münzen aus dem 2. Jahrhundert n.Chr., aber die frühesten *Texte* sind zweifellos *die alten Briefe*, die von Sir Aurel Stein in einem Wachturm der chinesischen Mauer westlich von Tun-huang entdeckt wurden. Ob diese nun in die erste Hälfte oder ins letzte Jahrzehnt des 2. Jahrhunderts n.Chr. oder erst ins frühe 4. Jahrhundert datiert werden müssen -- sie sind jedenfalls die frühesten Denkmäler, die die Struktur der Sprache enthüllen. Aber das Gros der sogdischen Texte ist späteren Ursprungs, aus der Zeit vom 5.-11. Jahrhundert n.Chr.

7.4. *Khwarezmisch*, die Sprache der alten Satrapie von *X^vārazmīš*, ist ziemlich gut bekannt aus der mohammedanischen Zeit, aber für die frühere Periode, die für unser Problem wichtiger ist, ist das Material kaum ausreichend. Sowjetische Expeditionen haben Inschriften in einem vorislamischen, aus dem aramäischen entwickelten Alphabet ans Tageslicht gebracht, zum Teil bei *Topraq Kala* (1948-49), zum Teil bei *Toq Kala* (1962); die Inschriften stammen aus dem 2. bzw. 7.-8. Jahrhundert. Aber die Schwierigkeiten der Entzifferung (oder Lesung) sind so groß, daß zur Zeit der Linguist keine nennenswerte Belehrung diesen Texten entnehmen kann.

7.5. Eine 25 Zeilen umfassende Inschrift in griechischen Buchstaben, aber in einer unbekannten Sprache wurde 1957 von französischen Archäologen bei *Surkh-Khotal*, dem alten Bagolango, in Afghanistan gefunden. Die Sprache hat sich als ein ostiranischer Dialekt entpuppt, und Henning hat für sie die passende Bezeichnung *Baktrisch* vorgeschlagen. Die Inschrift selbst stammt wahrscheinlich aus dem 2. Jahrhundert.

7.6. Die beträchtlichen Denkmäler des *Khotansakischen* kamen in Khotan, südwestlich von *Kashgar*, ans Licht, während in *Tumshuq*, unweit von *Maraḷ Bashi*, nordöstlich von Khotan, Reste eines verwandten aber archaischen Dialekts gefunden worden sind. Die Texte umspannen die vier Jahrhunderte von 600 bis ungefähr 1000 n.Chr.

8. Diese kurze Übersicht zeigt, daß es verfehlt ist, von einem allgemeinen raschen Verfall der iranischen Dialekte seit dem ersten Jahrhundert n.Chr. zu sprechen. Wir können ja in der Tat feststellen, daß keine mitteliranische Sprache aus diesem Jahrhundert bekannt ist. Die frühesten Zeugnisse kommen aus dem

- 2. Jahrhundert n.Chr. für das Altkhwaresmische und Baktrische,
- 3. Jahrhundert n.Chr. für das Parthische und Mittelpersische,
- 4. Jahrhundert n.Chr. für das Sogdische,
- 7. Jahrhundert n.Chr. für das Khotanesische.

Natürlich sollen diesen allgemeinen Angaben nicht implizieren, daß die verschiedenen Dialekte erst in den angegebenen Jahrhunderten niedergeschrieben worden sind. Die Angaben stellen nur das Datum der ersten Bezeugung fest. Es ist sehr unwahrscheinlich, daß es keine Versuche, die betreffende Sprache zu schreiben, vor den angegebenen Perioden gegeben hätte, aber zur Zeit haben wir keine früheren Texte.

Noch interessanter ist die Tatsache, daß wir reichliche Beweise dafür haben, daß nicht nur kein allgemeiner Verfall in allen iranischen Ländern zur selben Zeit eingetreten ist, sondern daß das Tempo dieser Entwicklung in den verschiedenen Regionen sehr verschieden war. Ein früher Verfall kann in der Tat nur für das Westiranische behauptet werden.

8.1. Als die ersten Denkmäler erscheinen (3. Jahrhundert n.Chr.) haben das *Parthische* und das *Mittelpersische* schon alles aufgegeben, was für die *Nominalflexion* charakteristisch war, nämlich die Genusunterschiede, das Casussystem und den Dual: Singular und Plural haben je eine Form bewahrt (z.B. *šāh* "König", *šāhān* oder *šāhīn* "Könige"). Auch wenn zwei Formen vorhanden sind (z.B. *pid* und *pidar* "Vater", vom Nom. *pitā* und Gen. *pitarah* oder *pitarahya*), können sie nicht zur Differenzierung von Casusformen dienen. Daß das frühere, vollere System zunächst zu dem Gegensatz von Nominativ und Genitiv (und nicht Nominativ und Akkusativ)

reduziert wurde, zeigt sich bei den Personalpronomina, vgl. das Personalpronomen der 2. Singularis *tū/tō* aus früherem *tuvam/tava*.

Das Verbalssystem ist ebenso stark vereinfacht. Das Präsens hat vier Modi (Ind., Konj., Opt., Impv.) beibehalten, aber das synthetische Perfekt wurde durch einen analytischen Typus mit dem Partizip der Vergangenheit ersetzt, der bei intransitiven Verben als Aktiv (z.B. *āmad hēm* "ich bin gekommen"), bei transitiven Verben als Passiv (z.B. *u-tān paīmōxt hēm* "und ich wurde von euch bekleidet") funktioniert.

8.2. Ganz anders ist die Lage bei den ostiranischen Sprachen. Um mit dem *Sogdischen* anzufangen, hat das Nomen nicht nur den *Genusunterschied* bewahrt, sondern auch die komplizierte *Flexion*; vgl. z.B. den Nachfolger von *baga-* "Gott" (Mask.) im Singular:

Nom.	<i>vaγi</i>
Vok.	<i>vaγa</i>
Akk.	<i>vaγu</i>
Gen.-Dat.	<i>vaγī</i>
Abl.	<i>vaγā</i>
Lok.	<i>vaγyā</i> .

Das Verbum hat vier Modi im Präsens und auch das alte Imperfektum bewahrt und sogar das Augment, wenn das Verb ein Präverb hatte, z.B. *par-wart-* "drehen": *parīwart-* aus **pari-a-wart-*. Das erneuerte analytische Perfekt hat bei Intransitiven ein Femininum im Christlich Sogdischen, z.B. *nyžt'* "sie ist hinausgegangen" aus **niž-itā*; bei Transitiven wird es mit *δār-* "halten" gebildet, das an den Akkusativ (Neutrum ?, vgl. lat. *captum habeo*) des Perfektpartizips angehängt wird; vgl. *vuydu-δār-* "erlösen".

Das Sogdische hat auch einen (erneuerten) *Potentialis* mit dem Perfektpartizip und dem Hilfsverbum "tun", d.h. *kun-* oder *wan-*, gebildet, der in anderen iranischen Sprachen ein typologisches Pendant hat, vgl. altpersisch ("es gab keinen, der") *magum xšaθam dītam xaxriyā* "dem Ma-

gier die Macht hätte nehmen können", manichäisch-sogdisch *nē ānīt kundī* "er kann nicht bringen", khotanesisch *ne...māndu yanīmā* "ich kann nicht bleiben".

8.3. Ungefähr dasselbe kann auch über den Konservativismus des Khotanesischen ausgesagt werden. Wie das Emmerick zusammengefaßt hat: Khotanesisch, besonders in der alten Sprachform, besitzt noch immer ein komplexes Flexionssystem und bewahrt mehr von dem indogermanischen Flexionssystem als irgendeine andere iranische Sprache. So hat das Verbum noch immer Endungen für die drei Personen des Singulars und Plurals im Aktiv und im Medium, und in den Modalformen des Konjunktivs, Optativs und Injunktivs. Das Altkhotanesische bewahrt in der Nominalflexion in der Einzahl sechs von den acht dem Indogermanischen zugeschriebenen Casus und im Plural fünf.

8.4. Das *Altkhwarezmische* scheint bisher nichts für unsere Zwecke Nützliches zu bieten. Umso überraschender ist es, daß zu *islamischen Zeiten* die Sprache noch immer Züge aufweist, die ebenso archaisch sind wie diejenigen, die in ihren älteren Verwandten, Sogdisch und Khotanesisch, auftreten. So hat z.B. das Nomen, das Maskulinum und Femininum unterscheidet, noch immer unterschiedliche Formen für den Nominativ und Akkusativ, den Genitiv, den Ablativ und Lokativ. Das Verbum hat noch vier Modi und ein Imperfekt mit Augment.

8.5. Obwohl das *Baktrische* viel früher aufgezeichnet wurde, bietet es nichts Vergleichbares. Natürlich kann man feststellen, daß das Nomen den Nominativ-Akkusativ und den Genitiv (κανηρο bzw. κανηρη) unterscheidet, aber in der Verbalflexion ist nur der Optativ mit *mā* in prohibitiven Nebensätzen verwendet (z.B. μα γαρηλο 3. Sing. "soll nicht entbehren") nennenswert. Ein Perfektum wie οαστυδο "sie wurden geführt", das dieselbe Funktion aufweist wie das parthische *wāst hēnd*, ist eher wegen der Neuerung bemerkenswert als für den Konservativismus, den man im Ostiranischen erwarten würde.

9. Statt eines allgemeinen Verfalls, der um den Beginn unserer Zeitrechnung eingesetzt und alle iranischen Dialekte in Mitleidenschaft gezogen hätte, finden wir ein differenzierteres und deswegen auch viel interessanteres Bild. Anstelle des angeblich einheitlichen Zerfalls finden wir eine ganz klare Dichotomie: Verfall im Westen auf dem Gebiet des modernen Iran, aber bemerkenswerten Konservativismus im Norden und Osten in den außenliegenden Gebieten. Und mit der Erkenntnis dieses internen Zwiespalts müssen wir auch den angeblichen Grund in Frage stellen, nämlich die Rolle des Iranischen als einer Sprache eines weltweiten Reiches.

9.1. Nach Meillet hat diese Rolle als Folge nach sich gezogen, daß die iranische Sprache fremden Völkern aufgezwungen wurde, und der Georrauch des Iranischen als Kommunikationsmittel über riesige Gebiete brachte die Schwächung der selbsterhaltenden Kräfte mit sich. In Wahrheit hat keine derartige Entwicklung im iranischen Reich stattgefunden.

9.2. Im Gegensatz zu dem Vorbild dieser Hypothese, nämlich dem Schicksal des Lateins im römischen Reich, war das Iranische nie zur Sprache des Reiches außerhalb der eigentlichen iranischen Länder geworden. Die Entwicklung war ganz anders. Wir wissen, daß zur Zeit der Achämeniden die *lingua franca* des Reiches das Aramäische war und nach dem Untergang des Achämenidenreiches wurde diese Rolle zweifelsohne mit dem Griechischen geteilt, aber nicht mit dem Iranischen.

9.3. Es kann auch nicht gesagt werden, daß die riesige Ausbreitung des Reiches -- jetzt auf die eigentlichen iranischen Länder begrenzt -- einen Zerfall ausgelöst hätte, denn wir sehen ja, daß das Gros dieses Gebiets im Großen und Ganzen von den Kräften des Verfalls unberührt blieb, die nur in dem westlichen Sektor des Sprachgebietes wirksam wurden.

9.4. Wenn wir nun diesen Sektor genauer ins Auge fassen, können wir sehen, daß hier die Disintegration schon lange vor dem angeblichen

Beginn des Verfalls im ersten Jahrhundert unserer Ära angefangen hat. Die Achämenideninschriften zeigen von allem Anfang an, daß in der Nominalflexion Genitiv und Dativ zusammengefallen waren und in den Verbalflexion ereilte das Imperfekt, den Aorist und das Perfekt dasselbe Schicksal, indem sie alle in einer einheitlichen Vergangenheitsform aufgingen.⁵ Die Thematisierung der konsonantischen Stämme erscheint zum ersten Mal in der letzten Inschrift von Darius dem Großen (*tunuvatahyā*, Dnb 9), eine Entwicklung, die im 4. Jahrhundert v.Chr. zu einer wahren Flut werden wird, wenn in den Inschriften von Artaxerxes II (405-359) und Artaxerxes III (359-338) Formen wie *Dārayavaušahyā*, *Xšayāršāhyā* auftreten, die Disintegration der Flexionsklassen z.B. durch *būmām*, *asmānām*, *šāyatām* bezeugt wird und die Auflösung der Genusunterschiede z.B. durch *imam hadiš* angezeigt wird, und sogar der Gebrauch der Casus in einer Phrase wie *tya mām kartā* höchst verworren erscheint.

9.5. Dieser Verfall im späten Achämenidenreich kontrastiert sehr scharf mit der guten Erhaltung des Ostiranischen im Avesta. Ebenso scharf kontrastiert auch das Westiranische der frühen nachchristlichen Jahrhunderte mit den ostiranischen Dialekten viel späterer Zeiten.

10. Nun könnten auch diejenigen, die sich von diesen Beobachtungen beeindrucken lassen, noch immer das Gefühl haben, daß zwar die These eines allgemeinen Verfalls aller iranischen Dialekte um den Anfang unserer Ära vielleicht aufzugeben sei, daß aber die Unberechenbarkeit sprachlicher Entwicklung so gut bekannt sei, daß wir nicht über diese allgemeine Wahrheit hinaus nach besonderen Gründen für den frappanten Gegensatz zwischen Ost und West suchen dürften.

Eine solche Auffassung muß aber, wie mir scheint, aufgegeben werden, wenn wir bemerken, daß ähnliche Erscheinungen und in ihrer Folge

⁵Für den Zusammenfall dieser Tempora siehe Wüst 1966:172 f.; Cowgill 1969; Lazard 1976:184 f.

ähnliche Systemveränderungen lange vor den entsprechenden iranischen Veränderungen eingetreten sind. Das linguistische Medium, in dem diese Erscheinungen zu beobachten sind, ist das sogenannte *Reichsaramäische*, das die allgemeine Sprache des Nahen Ostens im assyrischen, babylonischen und persischen Reich war, zunächst von ca. 700 bis 300 v.Chr., aber auch später, als es durch das Mittelaramäische (300 v.Chr. - 200 n.Chr.) ersetzt wurde.⁶

Im Ostaramäischen hat der *casus determinativus* seinen besonderen Wert verloren und wurde um 500 v.Chr. die normale Form. Dieser Trend zu einem Einformsystem wurde verstärkt durch den Ersatz des Status constructus durch die periphrastische Konstruktion mit *dī*, das dem persischen *izāfet* entspricht. Im Verbalsystem ist der Trend zur Schaffung einer zweigliedrigen Opposition von Präsens und Narrativ-Konstativ von Bedeutung. Als ein Gegenbild zu diesen Entwicklungen, die offenbar denen im Westen Irans parallel verliefen, kann nicht übersehen werden, daß das Altpersische einen großen Einfluß auf das Aramäische ausübte, sowohl im Lexikon wie auch in der Grammatik; so ist z.B. die ausschließlich ostaramäische Konstruktion *qtīl l-* zweifelsohne unter dem Einfluß der altpersischen Konstruktion *manā kartam* "von mir wurde gemacht" entstanden.

11. Diese Parallelitäten stellen ganz klar einen Fall von Sprachbundphänomenen dar, die seit den ersten Versuchen von Edward Sapir und Roman Jakobson mit so großem Erfolg untersucht worden sind. Die eben gemachten Beobachtungen genügen schon an sich, um zu beweisen, daß die eigenartige Position des Westiranischen innerhalb des iranischen Kreises dem Einfluß des Aramäischen zu verdanken ist, und weitere Forschung wird sicherlich den Umfang der beiderseitigen Einflüsse in dieser Region noch klarer herausstellen.

⁶Für das Aramäische siehe Kutscher 1970.

12. Zum Schluß sei mir noch gestattet, darauf hinzuweisen, daß dieser tiefgehende Einfluß des Semitischen auf das Westiranische nicht isoliert dasteht. Ich habe schon öfters zeigen können, was für einen großen Einfluß die semitische Welt auf das ganze Arische, später nur auf das Iranische ausgeübt hat (vgl. Szemerényi 1964; 1977:361 f.; 1980).

1. Um 2000 v.Chr. wurde unter dem Einfluß des Semitischen in der arischen Gruppe das ererbte Vokaldreieck *a, e, o* des Indogermanischen auf den einzigen Vokal *a* reduziert.
2. Unter dem fortdauernden Einfluß der semitischen Sprachen erleidet das iranische System weitere, anderswo unbekannte, Veränderungen im Lexikon und auf allen Gebieten des Sprachsystems, besonders in der Lautlehre, z.B. durch die Spirantisierung der vorkonsonantischen Verschlußlaute (vgl. *begad-kefat* !).
3. Nur das Altpersische wurde von einem weiteren Wandel berührt, nämlich von dem Wandel von iranisch *z* und *s* zu *š* und *h*.
4. Endlich habe ich in diesem Vortrag zu zeigen versucht, daß die Disintegration des westiranischen Systems durch das Aramäische ausgelöst wurde.
5. Als ein letztes Glied in dieser Kette von anhaltenden semitischen Einflüssen könnte die durchgreifende Beeinflussung des Persischen von seiten des Arabischen genannt werden -- aber das ist schon eine andere Geschichte.

III

Im Gegensatz zu den im ersten Teil behandelten Erscheinungen, die schon zum Sprachtod geführt haben, bzw. aller Wahrscheinlichkeit nach zu einem solchen führen werden (wenn kein nationalistischer Aufstand dies verhindert !), zeigt der Fall des westlichen Irans, daß hier zwar der Einfluß der semitischen Welt zu riesigen Umwälzungen, nicht aber zu einem Sprachtod geführt hatte. Statt eines Sprachverfalls sollten wir in diesem Fall, und vielleicht ganz allgemein in

allen ähnlichen Fällen, eher von einer Umstrukturierung der Sprache sprechen. Auch so bleiben aber noch genug historische Fälle, in denen fremder Einfluß zur stufenweisen Aufgabe der eigenen Sprache und so zu einem Sprachverfall führt, der dann normalerweise irreversibel bleibt und in einem Sprachtod endet.^{7,8}

⁷Es ist vielleicht auch für den heutigen Leser nützlich, auf zwei frühere Behandlungen des Themas zu verweisen, einmal Vendryes 1933 und zum anderen Terracini 1957. Andererseits möchte ich auch nicht versäumen, zwei ganz neue relevante Aufsätze zu erwähnen, die die lautlichen Interferenzmöglichkeiten (Meid-Heller 1979) und die lexikalischen und damit auch intern-semanticen Veränderungen (Gusmani 1979, da auch Hinweise auf frühere Schriften) untersuchen.

⁸Ich möchte hier noch meinen Dank dafür aussprechen, daß ich am 31. Jan. 1980 auf Einladung von Herrn Prof. Carlo de Simone Gelegenheit hatte, über diese Probleme vor dem Linguistenkreis der Universität Tübingen einen Vortrag zu halten; aus der anschließenden Diskussion habe ich vieles gelernt.

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SCHWUNDSTUFIGE FORMEN VON LANGVOKALISCHEN VERBEN IM ALTINDISCHEN

JOHANN TISCHLER
Justus-Liebig-Universität, Giessen

Zu den wichtigsten Lautgesetzen in der Indogermanistik gehört die verschiedene Behandlung von idg. *e: Während dieser Murmelvokal¹ sich im Indoiranischen zu *i* entwickelte, weisen alle anderen idg. Einzelsprachen hier -- in der Schwundstufe zu den Langvokalen *ā*, *ē*, *ō* -- einheitlich *a* auf. Als Standardbeispiele für diese wesentliche Erscheinung gelten Fälle wie²

ai. *sthi-ta-* "stehend": gr. στατός, lat. *stātus*

ai. *a-di-ta* "er gab" (3. Sg.Aor.Med.): gr. ἔ-δο-το

ai. *pitar-* "Vater": gr. πατήρ, lat. *pater*, usw.

Aus derartigen Ausführungen muß man den Eindruck gewinnen³, daß der Wan-

¹A. Fick: "Schwa indogermanicum", *Bezzensbergers Beiträge* 3 (1879), 157-65 (S. 157: "Dieses ursprüngliche e, o, das ich der Kürze wegen Schwa nenne, erscheint im Sanskrit meist als i, ī [vor und hinter Labialen auch als u, ū], im Zend als e, i, im Griechischen vorwiegend als α im Deutschen als o [got. u]").

²Vgl. Szemerényi, *Einführung in die vergleichende Sprachwissenschaft*, 1970, 34 (stellvertretend für die anderen geläufigen Handbücher) sowie Wackernagel, *Altindische Grammatik I*, 1896, 17ff., 80ff.

³Selbst aus Wackernagel l.c., wo die Gegenbeispiele über verschiedene Stellen verstreut sind.

del von idg. **e* zu arisch *i* ausnahmslos ist und die schwundstufigen Formen von langvokalischen Wurzeln (d.h. in der Regel Verben) *i* aufweisen: Das ist jedoch nicht der Fall; weder lassen sich die Beispiele für **e* > *i* "beliebig vermehren" noch ist der *i*-Vokalismus in der Schwundstufe von langvokalischen Verben regelmäßig. Ja, bei genauerem Zusehen erweist es sich, daß die Verben mit *i* in der Schwundstufe gegenüber anderen Realisierungsmöglichkeiten insgesamt gesehen in der Minderheit sind:⁴

Strukturell gesehen sind drei verschiedene Möglichkeiten zu unterscheiden⁵, nämlich:

1. Beibehaltung des Vollstufenvokalismus, wobei hier besonders wurzelhaftes *ā* von Interesse ist (Typus *āryati* "preist", Ptz. *āritā-* usw., s.u.); daneben auch Fälle mit wurzelhaftem *ī*, *ē*, und *ū*.
2. Quantitativer Ablaut *ā* ~ *a* von Typus *gāhate* "taucht" : *gāhana* "tief" (RV) ist relativ selten. Ausserlich gehören jedoch noch eine ganze Reihe von anderen morphologischen Erscheinungen hierher, so
 - a. Det Set-Wurzeln mit ihrem Nebeneinander von *ā* (Vollstufe der 1. Silbe) und *a* (Kontraktion von silbischem Nasal mit Schwundstufenreflex der zweiten Silbe bei doppelter Schwundstufe) wie in *jānate* "erzeugt" : *jātā-* (**ḡne-tō-*);
 - b. Thematische Flexionsformen von Verben mit wurzelschliessendem Langvokal *-ā-*, da idg. **e* bzw. sein ai. Vertreter

⁴Da es sich im folgenden um die Darstellung der synchron vorhandenen Ablautsmechanismen handelt, bleiben diejenigen (angeblichen) Set-Wurzeln ausser Betracht, bei denen lediglich ein *i* in zweiter Silbe auf die Möglichkeit hinweist, dass hier eine schwere Basis mit Langvokal in zweite Silbe vorliegt, vgl. Fälle wie *asita-*, *ucitā-*, *kupitā-*, *kṛṣita-*, *kṣudhita-*, *trṣita-*, *rupita-*, *vidita-*, *hrṣita-* (s. Hirt, *Idg. Gramm.*, II, 1921, 59, 108ff.).

⁵Phonologisch gesehen sind hingegen 6 verschiedene Möglichkeiten in der Realisierung der Schwundstufe von Langvokalen zu berücksichtigen (vgl. auch Renou, *Grammaire de la langue védique*, 1952, 26), nämlich (1) Beibehaltung von *ā*; (2) Vokal *i*; (3) Analogisch gedehntes *ī*; (4) Vokallosigkeit (verschieden zu erklären); (5) Vokal *u* (so noch Renou, wohl

vor vokalisches anlauten Endungen bzw. Suffixen schwindet, vgl. daher Reihen wie *ghrā-ti* "riecht" : *ji-ghr-āti*, *da-dāti* "gibt" usw.

- c. Bei der Bildung des reduplizierten Aorist kommt es aus rhythmischen Gründen zur Kürzung der Wurzelsilbe, vgl. *rādḥ-* "bereiten" : *arīrādḥam* usw., s.u.
3. Abstufung $\bar{a} \sim i$, die angeblich "regelrechte" Bildung vom Typus *drāti* "schläft" : Ptz. *nī-drītā-* "schlafend".
4. Eine Sonderrolle nehmen die diphthongischen Wurzeln ein, die für die Genese und den Ausbau des verbalen Ablautsystems sicherlich von entscheidender Bedeutung waren, vgl. Fälle wie *śyā-yati/śī-yāte* "macht gerinnen, gefrieren" oder *cāyati* "bemerken" : *cītā-* (vgl. auch *cīketi* "wahrnehmen"), die mit ihrem Nebeneinander von \bar{a} und \bar{i} entscheidend zum Durchbruch von i in Stellungen, die morphologisch Schwundstufenvokalismus erwarten lassen, beigetragen haben dürften.

Diesen Gruppen sind im einzelnen folgende Verben zuzurechnen⁶:

1. (Durchführung von \bar{a}):

āñch- "ziehen" (*āñchati*; vgl. *āñchana-* klass. "das Ziehen");
ār- "preisen" (*āryanti*, Partizip *āritā-*);
ās- "sitzen" (*āste*; *āsītā-*);
kāñkṣ- "wünschen" (*kāñkṣati*; *kāñkṣita-*);
kāś- "glänzen" (*kāśate*; *kāśita-*);
kāṣ- "husten" (*kāṣate*; vgl. *kāṣa-* "Husten");
kṣā- "brennen" (*kṣāyati*; *kṣāṇa-*);
khyā- "sehen" (*khyāti*; *khyātā-*);

anders zu deuten); (6) Kurzes \bar{a} . Ausführlicher Vf., *Akten der 6. Fachtagung der Idg. Gesellschaft*, 1980, S. 512f., Anm. 56.

⁶Reihung der Verben nach Wurzelformen wie bei Whitney (*The Roots, Verb-forms and Primary Derivatives of the Sanskrit Language*, Leipzig, 1885).

- glā- "verdrossen sein" (*glāyati*; *glānā-*);
cakās- "scheinen" (*cakāsti*, *cakās-ati*);
trā- "verteidigen" (*trāyate*, *trāti*; *trāta-*; möglicherweise
2. Vollstufe der Set-Basis in *tarati*);
dā- "reinigen" (*dāyati*; *dāta-*);
dās- "opfern" (*dāśati*, *dāṣṭi*; vgl. aw. Ptz. *dāšta-*);
drā- "laufen" (*drāti*; *drāṇa-*);
dhāv- "strömen" (*dhāvati*; *dhāvita-*);
dhyā- "denken" (*dhyāyati*; *dhyāta-*);⁷
nāth-/nādh- "Hilfe suchen" (*nāthate* "sucht Hilfe", *nāthitā-*
"hilfsbedürftig"; *nādhas-* "Hilfe", *nādhitā-* "hilfsbedürftig");
prā- "füllen" (2. Sg.Prs. *prāsi*, Ptz. *prātā-*);⁸
bādh- "drücken" (*bādhati*; *bādhitā-*);
bhā- "scheinen" (*bhāti*; *bhāta-*);
bhāṣ- "sprechen" (*bhāṣate*; *bhāṣita-*);
bhās- "leuchten" (*bhāṣati*; *bhāṣita-*);
bhrāj- "strahlen" (*bhrājate*);
mārg- "suchen" (*mārgati*; *mārgita-*);⁹
mlā- "welken" (*mlāyati*; *mlātā-*);
yā- "gehen" (*yāti*; *yātā-*);
yāc- "flehen" (*yācati*; *yācitā-*);
yād- "vereinigen" (Ptz. *yādāmana-*; vgl. *yādas-* "Wollust");
rā- "bellen" (*rāyati*);¹⁰
rāj- "herrschen" (*rāṣṭi*, *rājati*; Inf. *rājāse*);¹¹

⁷Zu *dhī-*, *dīdheti* ds., also idg. schwere Basis **dheĩā-*, s. Mayrhofer *KEWA* II 115.

⁸Set-Wurzel **plē-*, geläufiger Ablautsstufe **pel(ə)-* in *pīpartī* bzw. Schwundstufe **plē-* in *pūrnā-* "gefüllt".

⁹Denominativum zu *mārga-* "Fährte", weiter zu *mrgā-* "Wild", s. Mayrhofer *KEWA* II, 626, 669.

¹⁰Nach Auffassung der einheim. Gramm. langvokal. Wurzel (Aor. angeblich *arāsīt* etc.), aber wohl der diphthongisch, vgl. die mi. Entsprechungen bei Turner, *Comp. Dict. of the Indo-Aryan Lang.*, Nr. 10714, z.B. prāk. *rāi* "makes a noise"; vgl. jedoch *rās-ate* "brüllt".

¹¹Denominativum zu *rāj-* "König", s. *KEWA* III, 51, 56.

rādh- "bereiten" (*rādhnōti*; *rāddhā-*);
lā- "nehmen" (*lāti*; *lātvā*);¹²
vā- "blasen" (*vāti*; *vāta-*);
vāñch- "wünschen" (*vāñchati*; *vāñchita-*);¹³
vāh- "drücken" (*vāhate*; *pra-vāhita-* n. "das Niederdrücken");¹⁴
ślāgh- "Zuversicht haben" (*ślāghate*; *ślāghita-*);
snā- "sich baden" (*snāti*; *snātā-*);
hrād- "tönen" (*hrādate*; *hrādita-*);¹⁵
hlād- "sich erfrischen" (*hlādate*; vgl. ved. *hlādikavant-* "Erfrischung bietend").

2. Abstufung *ā* : *a* ist sehr selten, vgl.

gāh- "tauchen" (*gāhate*, Ptz. *gāḍha-*, später *gāhita-*) neben *gāhana-* "tief" (RV);
dās- "anfeinden, verwüsten" (*dāsati*, *dāsyati*; Aor. *dāsīt dasat*; Ptz. *dāsta-*);¹⁶
śās- "schlachten" (*śāsti*; Dehnstufe zu *śās-*: RV *vī śasta*, wozu Ptz. *śāsta-*);
sādh- "gedeihen" (*sādhati*, Inf. *sādhitum*; später (JB) auch *sādhnoti*);¹⁷ vgl. unten.
svād- "würzen (usw.)" (*svādate* "wird schmackhaft", *svādati* "macht schmackhaft"; zugehörige Ptz. *svāttā-* und *svāditā-*).¹⁸

¹²Erst spät belegte Wortsippe; Ptz. wohl **lātā-*.

¹³-*sk*-Verb zur Set-Form **uenə-* wie in *vānitar-* "Besitzer", woneben Anit-Formen wie *vantār-* ds. zu *vanōti* "erstrebt", s. KEWA III 141 f., 182 f.

¹⁴Erst spät belegte Wortsippe, Deutung unsicher.

¹⁵Letztlich wohl Schallwurzel, also nicht in die Grundsprache zurückprojizierbar.

¹⁶Denominativum zu *dāsā-* "Feind" ?, KEWA II 38.

¹⁷Alte Schwundstufe liegt wohl in *sīdh-* "gelingen" vor, das sich aber verselbständigt hat (*sīdhyati*, Ptz. *siddha-*, Pf. *siṣedha-*).

¹⁸*svad-* kann auf schwundstufiges **syəd-* zurückgeführt werden, es wird sich jedoch eher um das Denominativum zur Vollstufe handeln und bei *svād-* um das Denominativum zur (nominalen) Dehnstufe, s. KEWA III 568 f.

Außerdem vgl. noch einige Verben, die Schwundstufe mit *ā* neben sonstigem *i* aufweisen (Gruppe 3), nämlich *ghrā-*, *dhā-*, *mā-* und *hā-* (s.u.).

Außerlich tritt eine Abstufung *ā* : *ā* auch sonst gelegentlich auf, so bei der Bildung des reduplizierten Aorist, der zur Silbenfolge "schwere Reduplikationssilbe + leichte Wurzelsilbe"¹⁹ neigt, wodurch es zu Kürzungen der Wurzelsilbe kommen kann, vgl. *rādh-* "bereiten": *arī-rādhām*; *vāś-* "wünschen" : *avivāśam*; *sādh-* "gedeihen" : *asīsādhām* (vgl. auch *sādhnoti*); ähnlich auch bei Verben mit innerindischer Vṛddhi wie *jīv-* "leben" : *ajījivam*; *dīp-* "scheinen" : *adīdīpam* usw.

Weitere Fälle von Abstufung *ā* : *ā* wurden schon eingangs erwähnt: Es handelt sich um morphonologisch bedingte Kürzungen wie in bestimmten Flexionsformen bei thematischer Flexion (*dā-* "geben" → *dādāti*) sowie um schwundstufige Formen von Setz-Wurzeln.

3. Abstufung *ā* : *i* (die "regelrechte" Vertretung) zeigen zunächst einsilbige Wurzeln wie

- āp-* "erreichen" (*āpnōti*; *āptā-* V.; Desid. *īpsati* AV);
gā- "gehen" (*jīgāti*, *gāte*; Aor. *agīṣṭa* Br., Desid. *jīgīṣati* SV; *gātū-* V. wohl mit sekundärem Akzentsitz);
gā- "singen" (*gāyati*, *gāti*; *gītā-* "Lied" V., wohl erst danach der Akzentsitz in *gātū-* ds.);
ghrā- "riechen" (*jīghrāti*, *ghrāti*, *ghrātā-* V., Absolutivum *jīghrītva* klassisch);
dā- "geben" (*dādāti*, *dātte*; *-dāta-* RV, dann vokallos *-tta-* und *-dattā-* V., episches dann auch *-dita-*; Pass. *dīyate* Ved.);
drā- "schlafen" (*drāti*, *drāna-*; *ni-drīta-* klassisch);
dhā- "ponere" (*dādhati*, *dādhāti*, *dhāti*; *hitā-* Ved.);
psā- "verschlingen" (*psāti*; *psātā-* ŚBr; Pass. *apsīyata* JB; letztlich zu *bābhasti*, *bāpsati* "kaut");
mā- "messen" (*mīmāte*, *mimāte*; Ptz. *mitā-* und viell. auch *mātā-* RV 5,45,6);

¹⁹Whitney, *Sanskrit Grammar*, 1888, §861.

- rā-* "geben" (*rāti*; *rātā-* V.; Prs. *rirīhi*, *rarīdhvam* V.);
śā- "schärfen" (*śīśāti*; *śitā-* V., möglicherweise diphthongisch **keH-i-*, s. KEWA III 345; ep. auch *śāta-*);
śāt- "zertrennen" (*śātāyati*, *śāta-* "das Abfallen", wohl zu *śī-yate* "schwindet", s. KEWA III 323);
śās- "bestrafen" (*śāsti*, *śistā-* RV, *śāsta-* Samh.);
śrā- "kochen" (*śrāyati*, *śrāti*; *śrātā-*; wohl zu *śrīṇāti*, *śrītā-* "mischen", schon ved. getrennt);
sthā- "stehen" (*tīṣṭhati*, *asthāt*; *sthitā-* RV.);
sphā- "fett machen" (*sphāyate*; *sphīta-* E., möglicherweise jedoch diphthongischer Herkunft trotz gramm. *sphāta-*);
hā- "verlassen" (*jāhāti*, *jahāti*; Ptz. *jahitā-* und *hīnā-* Ved., früher diphthongisch erklärt; Brah̄m. auch *hāna-*).

Außerdem gehören auch die zweisilbigen (schweren) Basen mit Nasal hierher, die ein Nebeneinander von *ā/ā/i* zeigen:

- khan-* "graben" (*khānati*/*khātā-*/*khānitum*);
jan- "gebären" (*jānati*/*jātā-*/*jānitōs*);
jñā- "wissen" (*jñānāti*/*jñānitē*/*jñātā-*);
dhām- "blasen" (*dhāmati*; Aor. *adhmasīt*; Ptz. *dhmātā-* und *dhāmitā-*);
mnā- "erwähnen" (*manati*, Aor. *mnāyāt*) gegenüber dem etymologisch zugehörigen *man-* "denken" (*mānyate*, *manutē*; Ptz. *matā-*, Abs. *matvā*, Gramm. auch *manita-*, *manitvā*);
van- "gewinnen" (*vanōti*, *vanati*; Ptz. *-vātā-*, *vanita-*; Nomen agentis *vānitar-* und *vantār-*);
san- "erlangen" (*sanōti*, *asāta*; Ptz. *sātā-*; Aor. *asāniṣam*, N. ag. *sanitar-*).

Wie schon eingangs erwähnt, ist das Nebeneinander von *ā/ā/i* hier jedoch sekundär und phonologisch begründet, da die Länge *ā* ein Kontraktionsprodukt aus silbischem Nasal und *ə* darstellt.²⁰

²⁰Bei Wurzeln mit Liquida ist das Ergebnis dagegen bekanntlich ein anderes, vgl. *piparti* "füllt", *pr̥nāti*: Ptz. *pūrṇā-* aus **p̥l̥ə-nō-* usw., vgl. Anm. 9.

Wie ersichtlich, ist die Zahl der Verba, die als Schwundstufen-vokal \check{i} zeigen (17) bedeutend geringer als die derjenigen, die den Langvokal \bar{a} auch in morphologischer Schwundstufe beibehalten (39). Doch damit nicht genug: Die meisten Verba mit \check{i} zeigen daneben auch Formen mit \bar{a} , wobei diese häufig sogar primär sein dürften:

Primär sind die Formen mit \bar{a} im Falle von $\bar{a}p-$, $ghr\bar{a}-$, $dr\bar{a}-$, und $ps\bar{a}-$;

Schwierig oder nicht zu fällen ist eine Entscheidung über die Priorität von \bar{a} oder \check{i} im Falle von $d\bar{a}-$ "geben" (hier dürfte die Vokallosigkeit in Formen wie $-tta-$ das Älteste sein, wie die Verwendung in der Onomastik zeigt);²¹

Sicher primär (bzw. allein belegt) sind die Formen mit \check{i} dagegen bei den Verben $dh\bar{a}-$ "setzen, legen, stellen", $m\bar{a}-$ "messen", $\acute{s}\bar{a}-$ "schneiden"²², $\acute{s}\bar{a}s-$ "bestrafen", $sth\bar{a}-$ "stehen", und $sph\bar{a}-$ "fett machen" (vgl. Anm. 22), $h\bar{a}-$ "verlassen", $g\bar{a}-$ "gehen", und $g\bar{a}-$ "singen".

Tabellarisch:

Verba mit Beibehaltung von \bar{a}	Verba mit Ablaut $\bar{a} : \check{i}$, meist daneben Beibehaltung von \bar{a}		
39	17		
Typus $\acute{a}ste : \bar{a}sit\bar{a}-$	4	4	9
	\bar{a} primär $\bar{a}pn\acute{o}ti :$ $\bar{a}pt\bar{a}-/$ $\check{i}psati$?	\check{i} primär $dh\bar{a}ti :$ $hit\bar{a}-$

²¹*Marutta-* aus **marut-tta-* "von den Maruts gegeben", iran. **dasta-* (entspr. *dattā-*) in lyd. *Mitridastās*, s. KEWA II 13 f.

²²Hier ist \check{i} möglicherweise (zumindest ursprünglich) Reflex eines i -Diphthonges.

Es stellt sich hier natürlich die Frage, wie dieser Befund zu erklären ist, d.h. welche Formen die ursprünglichen sind. Theoretisch sind drei Erklärungen möglich:

1. Die klassische Erklärung betrachtet die Formen mit \tilde{i} als ursprünglich (i lautgesetzliche Vertretung des idg. Murmelvokals \bar{e}) und die Formen mit a als analogische Übertragungen aus den morphologischen Vollstufen, rechnet also mit Verdrängung alter Formen auf i (*snāta-* ersetzt altes **snīta-*): Abzulehnen, da ja ansonsten im Gegenteil die Formen mit i im Vormarsch begriffen sind, vgl. die oben Anm. 4 erwähnten "Seṭ-Formen" zu einsilbigen Wurzeln oder z.B. das Futurum, bei dem i sich frühzeitig ausgebreitet hat.
2. Eine gegenteilige Erklärung wäre die Annahme von Priorität der Formen mit \bar{a} -- ursprünglichen Kurzvokalen wie in den anderen idg. Sprachen als Vertreter von Schwa -- und sekundärer Ausbreitung von \tilde{i} ; diese Erklärung scheitert jedoch daran, dass gerade einige der archaischen Verben wie *dhā-*, *sthā-* und *mā-* keine a -Formen (*dhātum*, *sthātum*, *mātum* haben Vollstufe) zeigen.
3. Es muss demnach wohl bei einer dritten Erklärung Zuflucht genommen werden, wonach es von Anfang an verschiedene Realisierungen (\bar{a} neben \tilde{i} , möglicherweise ursprünglich auch \bar{a}) der Schwundstufe gegeben hat:

Beibehaltung des Vollstufenvokalismus scheint bei einer Reihe von Verben schon gemeinindogermanisch gewesen zu sein, nämlich bei Verben mit geschlossener Wurzelsilbe, vgl. Kuryłowicz, *FS Renou*, 1968, 433-37; *Indogermanische Grammatik II*, 1968, §§ 270, 428; *Problèmes de linguistique indo-européenne*, 1977, 180 f.:

gr. $\pi\acute{\eta}\gamma\upsilon\mu\iota$ "befestige" : $\acute{\epsilon}\pi\acute{\alpha}\gamma\eta\nu$, aber $\pi\eta\kappa\tau\acute{o}\varsigma$;

lat. *pangō* "setze fest" : *pepigi* (**pe-pāg-*),
aber *pāctus*;

ai. *śāsti* "bestraft" : Aor. *aśiṣat*, aber Prs. Pl. *śāsmās*.²³

²³Ptz. *śiṣṭā-*, wie oben erwähnt: nach Kuryłowicz, *Indogermanische Grammatik* S. 211 ist hier der Vokalismus des Aorist (offene Silbenstruktur *a-śi-ṣat*, daher *i*-Vokalismus = Reduktion berechtigt) eingedrungen.

Diese Regelung hat offenbar auch hier weitgehend Gültigkeit: So haben die Verba mit \bar{i} in der Schwundstufe tatsächlich fast alle²⁴ offene Wurzelsilbe und von denen, die Durchführung von \bar{a} zeigen, immerhin 24 Verba = über 60% aller Fälle, geschlossene Wurzelsilbe:

Beibehaltung (\bar{a} : \bar{a})		Ablaut \bar{a} : \bar{i}	
Silbenstruktur		Silbenstruktur	
(T)ĒT	TĒ	(T)ĒT	TĒ
61,5%	38,5%	11%	89%
(mārg-ita-) usw.	(bhā-tā-) usw.	īpsati, śiṣṭa-.	(hi-tā- usw.)

Das Problem reduziert sich demnach auf die Frage, wie die Fälle mit \bar{a} in der Schwundstufe bei offener Wurzelstruktur zu erklären sind. Es handelt sich um folgende Formen:

- kṣā-* "brennen" : *kṣāna-* B.S.
khyā- "sehen" : *khyātā-* AV.
glā- "verdrossen sein" : *glānā-* B.
trā- "verteidigen" : *trātā-* B.
dā- "reinigen" : *dātā-* TA.
drā- "laufen" : *drāṇa-* U.
dhyā- "denken" : *dhyātā-* B.
prā- "füllen" : *prātā-* RV.
bhā- "scheinen" : *bhātā-* U.

²⁴Gegen diese Regelung verhalten sich *śās-* "befehlen" : Ptz. *śiṣṭa-* (s. die vorhergehende Anmerkung), und *āp-* "erlangen" : Desiderativum *īpsati* "sucht zu erlangen" (traditionell als redupliziertes **i-āp-s-* aufgefasst, besser jedoch mit Leumann, *Morphologische Neuerungen im altindischen Verbalssystem*, 1952, 119 Analogiebildung nach dem synonymen *labh-*, Des. *līpsate*).

mlā- "welken" : *mlātā-* RV.

yā- "gehen" : *yātā-* V.

rā- "bellen" : Aor. *arāsīt* Gramm., Ptz. wohl **rātā-*.

lā- "nehmen" : Abs. *lātvā* Klass., Ptz. wohl **lātā-*.

vā- "blasen" : *vāta-* S.

snā- "sich baden" : *snātā-* AV.

Wie ersichtlich, handelt es sich hierbei also -- von ganz wenigen Ausnahmen abgesehen -- um schon früh belegte Formen und es ist nicht anzunehmen, daß es sich überall um Analogiebildungen zu Verben mit geschlossener Wurzelsilbe, wo diese Bildungsweise offensichtlich berechtigt und wahrscheinlich schon aus der Grundsprache ererbt war, handelt. Da eine derartige Analogieerklärung (Verdrängung von Formen mit \check{i} durch solche mit \bar{a} , Typus **mlītā-* → *mlātā-*) der sonstigen Tendenz der Ausbreitung von \bar{i} zuwiderläuft, muß nach der Möglichkeit einer phonologischen Erläuterung gesucht werden. Mit anderen Worten: Wodurch unterscheiden sich Verba wie *dhā-*, *gā-*, *sthā-*, *mā-*, usw., die der Schwundstufe \bar{i} aufweisen (*hitā-*, *gītā-*, *sthitā-*, *mitā-*), von solchen wie *bhā-*, *yā-*, *vā-* mit ihren schwundstufigen Formen auf \bar{a} (*bhātā-*, *yātā-*, *vātā-*)?

Wenn man an der traditionellen Meinung festhält, daß Formen wie *hitā-* und *sthitā-* als **dhē-tō-* und **stē-tō-* genauso in die Grundsprache zurückprojizierbar sind wie *yātā-* und *vātā-* als **iē-tō-* und **uē-tō-*, dann versperrt man sich den Weg zu einer möglichen Lösung des Problems, da dann nicht ersichtlich ist, wie sich \bar{e} einmal zu \bar{i} und -- unter sonst gleichen Bedingungen -- zu \bar{a} entwickeln soll.

Wenn man jedoch akzeptiert, daß es sich zumindest bei einem Teil der Langvokale um Produkte einer sekundären Dehnung nach Ausfall eines konsonantischen Elementes, nämlich eines "Laryngals"²⁵ handelt, wird eine plausible Lösung sichtbar:

²⁵Wie immer dessen phonetische Beschaffenheit gewesen sein mag.

Vollstufe *mā-* in *māti* aus **meH-*²⁶ gegenüber schwundstufigem *mitā-* aus **mH-tō-* und Einschub von anaptyktischem *i*; ebenso Vollstufe *trā-* in *trāti* aus **treH-*²⁷ gegenüber schwundstufigem *trāta-* über **tratā-* aus **trH-tō-* und Einschub von anaptyktischem *a*.²⁸

Die Verschiedenheit des Schwundstufenvokals bei Wurzeln mit offener Silbe würde sich also dadurch erklären, daß es sich hier um *verschiedenfarbige Sprassvokale* handelt. Daß es sich bei der Vokalanaptyxe nicht um einen konditionierten Lautwandel handelt, zeigen Fälle wie ai. *puruṣa-* "Mann" aus **pursa-* gegenüber mi. *purisa-*, *garabha-/garbha-* "Mutterleib", *pāraśu-* AV 7,28,1b statt *pārśu-* "Rippe" zur Scheidung von *paraśū-* "Axt" in selben Vers,²⁹ *ātithi-* "Wanderer" : aw. *asti-* usw.³⁰

Es ist jedoch denkbar, daß die Beschränkung auf die Sproßvokale *a* und *i* durch andere Muster verursacht worden ist: So zum einen dadurch, daß es ja auch "echte" Langvokale gegeben haben dürfte, deren Reduktionsstufe sicherlich mit der Vokalfarbe der Vollstufe korrespondierte (ai. *ā* : *ǣ*),³¹ zum anderen dadurch, daß das Ablautsmuster *a* : *i* ja durch die zahlreichen diphthongischen Wurzeln gegeben war.³²

²⁶Wurzelansatz mit Laryngal gesichert durch die heth. Entsprechung *mehur* "Zeit", anders Eichner, *MSS* 31, 1972, 53-107.

²⁷Wurzelansatz mit Laryngal gesichert durch Zugehörigkeit zu *tara-ti* "überwindet" und weiter zu heth. *tarḫ-* "überwinden".

²⁸Da im Ptz. *tīrnā-* zur Vollstufe I *tarati* ein andersfarbiger Sproßvokal erscheint, könnte man *trāta-* zu *trāti* auch als analogische Übertragung der Vollstufe ansehen.

²⁹Debrunner, Nachträge zu Wackernägel, *Altindische Grammatik* I, 56.

³⁰Ebenso die Situation in anderen Sprachen, vgl. z.B. Schwyzler, *Griechische Grammatik* 276-9.

³¹Vgl. *yā-* "gehen" aus **i-ā-* wie in heth. *ija-* dass., wo wohl nie ein Laryngal enthalten war, vgl. auch Szemerényi, *Phonetica* 17, 1967, 91; Vf., *HEG* 343 ff.

³²Vgl. z.B. *dyāti/dāti* "schneidet" : *ditā-* usw. usw.

RESÜMEE

1. Die Zahl der Verben, die als Schwundstufenvokal *i* (die angeblich regelrechte Entwicklung aus *Schwa*) zeigen, ist bedeutend geringer als die derjenigen, die den Vokalismus *a* auch in morphologischer Schwundstufe beibehalten.
2. Ein Teil der Fälle mit Beibehaltung der Vollstufe *ā* erklärt sich morphonologisch und hat Parallelen im Griechischen, tritt nämlich bei geschlossener Silbe auf, vgl. *śās-ti*, *śās-mas* : *aśiṣ-at* wie *πήγυμι*, *πηκτός* : *ἐπάγην*.
3. Klärungsbedürftig bleibt demnach das Nebeneinander *ā* : *ĩ* und *ā* : *ǣ* bei Verben mit jeweils offener Silbenstruktur, also

mā-ti : *mī-tā-* aber *vā-ti* : *vā-tā-*

4. Die Verschiedenheit der Schwundstufenreflexe (*a/i*) bei sonst gleichartiger Wurzelstruktur deutet auf einen *unkonditionierten* Lautwandel, nämlich auf *Anaptyxe*: Viele dieser Verben hatten ursprünglich gleichfalls geschlossene Wurzelsilben, enthielten einen Laryngal (**meH-*, **ueH-*), wobei sich in der morphologischen Schwundstufe (**mH-tō-*, **uH-tō-*) ein anaptyktischer Vokal zur Beseitigung der artikulatorischen Notlage einstellte.

Daneben gab es sicherlich auch Verben, die nie einen Laryngal besaßen, wo der Langvokal ursprünglich ist (*yā-* aus **i-ā-*) und die in der Schwundstufe (*yātā-* aus **yatā-*) erwartungsgemäß die Vokalfarbe der Vollstufe beibehalten.

RECHERCHES COMPARATIVES SUR LE VOCABULAIRE DES LANGUES ANATOLIENNES

A. J. VAN WINDEKENS
Université Catholique Néerlandaise de Louvain

0. La publication tout à fait récente de l'important *Hethitisches etymologisches Glossar* I (1977), II (1978) de Tischler (avec des contributions de Neumann), où pour la première fois on se trouve(ra) confronté avec ce que l'on peut appeler la totalité de l'histoire de la grammaire comparée des langues anatoliennes en général, est évidemment de nature à donner un nouvel élan aux recherches portant sur ladite grammaire, en premier lieu dans le domaine du vocabulaire: en effet l'étude de l'ouvrage de Tischler prouve que, en dépit d'environ un demi siècle d'investigations ininterrompues, un tas impressionnant de problèmes restent à résoudre et plusieurs points obscurs ou douteux attendent toujours une solution définitive. Le but de mes présentes recherches est précisément de contribuer dans une certaine mesure à combler des lacunes et d'essayer à jeter une nouvelle lumière sur des cas presque oubliés.¹ Comme dans le groupe anatolien le hittite est de loin l'idiome le plus important, il est tout à fait naturel que dans cet article aussi ce sont avant tout les données hittites qui seront envisagées et étudiées.

¹C'est d'ailleurs dans la même perspective que j'ai conçu la première partie de mes "Contributions à l'interprétation du vocabulaire hittite et indo-européen" dans la *Festschrift Szemerényi* (1979) et aussi ma notice "Zur Herkunft von heth. *haluga*-" (*IF* 83 [1978:121-2]).

A côté du *Glossar* de Tischler il faut cependant citer une autre publication fort récente qui a comme objet principal, et certainement comme point de départ, le même groupe linguistique, je veux dire *The Laryngeal Theory: A Critical Survey* (1978) de Jonsson: c'est là à mon avis l'exposé le plus complet consacré jusqu'ici à l'histoire de ladite théorie² qui coïncide pour ainsi dire avec l'histoire des langues anatoliennes elles-mêmes. L'étude de cet ouvrage ne confirme pas seulement l'existence de toute une série de subthéories très variées dans le sein de la théorie laryngale, mais révèle en même temps que pour certains de ses aspects les données sont insuffisantes et/ou trop peu approfondies. C'est pourquoi les recherches que je présente ici ont été orientées en premier lieu sur la théorie laryngale: j'espère que j'ai réussi à trouver de nouveaux matériaux et à renouveler l'examen de certains éléments.

Le fait que ces recherches figurent dans la *Gedenkschrift Kerns*, n'est pas dû au pur hasard: en effet comme la théorie laryngale a aussi attiré l'attention particulière de ce savant qui déjà de sa vie était entré dans la légende grâce à son érudition extraordinaire,³ j'ai choisi une étude se rapportant à cette matière pour honorer sa mémoire. J'ose espérer que ces quelques pages seront dignes de l'enseignement et de la production scientifique de ce grand linguiste.

I. Mots présentant *h* à l'initiale

1. Comme on dispose maintenant de la liste complète des mots hittites, et de leurs correspondants louvites et palaïtes, à initiale *h* qui ont été étudiés à la lumière de la théorie laryngale (Tischler

²Dans cet ouvrage l'importante contribution "The Placing of the Anatolian Languages", *Orbis* XXV (1976:199-239), de Bomhard n'a pu être intégrée.

³Cf. R. C. Lugton et M. G. Saltzer (ed.), *Studies in Honor of J. Alexander Kerns* (1970): "Kerns Bibliography", p. 5; et R. A. Fowkes, "J. A. K.", pp. 9ss.

1977s.:120-334), il était tentant de les soumettre à un nouvel examen d'ensemble. Je pense qu'à côté des exemples déjà devenus classiques du type de hitt. *ḫant-* "face antérieure, front, façade" = gr. ἀντί "en face de", hitt. *ḫaštāi-* "os, ossement(s)" = gr. ὀστέον, m.s. (cf. Jonsson 1978:61ss.), j'ai pu réunir plusieurs unités que l'on pourra éventuellement ajouter aux exemples de base prouvant avec certitude l'origine laryngale proprement dite d'anat. *ḫ*.

En suivant pour les voyelles brèves les grandes lignes de la doctrine traditionnelle de Kuryłowicz (avant 1961: Jonsson 1978:7ss. et 49) j'ai groupé mes propres exemples sous **H₂-* (surtout) et **H₃-*; là où d'autres langues indo-européennes n'apportent aucun éclaircissement sur la nature exacte de la laryngale, j'ai utilisé **H-* qui s'y trouve donc pour **H₂-* ou **H₃-*. D'ailleurs dans les subdivisions (a) *ḫa-* et (c) *ḫu-* j'ai distingué les cas où la laryngale a laissé des traces hors de l'anatolien et ceux où l'anatolien se trouve seul avec *ḫ-*.

a. *ḫa-*

2. Hitt. *ḫali-*(1) "Hürde für Großvieh, Viehhof; Mauer" est qualifié par Tischler (1977s.:128s.) de "Ohne Etymologie, wohl fremd". Or comme des significations précitées il se laisse dégager la notion primitive de "mur" ou de "clôture murée", l'examen analogue bien connu de gr. τοῦχος (masc.) "mur de maison, etc.", τεῦχος "mur, fortification", τεύχω "construire un mur, etc." < "mur *d'argile" < i.-e. **dheigh-* "enduire, luter, modeler en argile" (cf. skr. *dēhmi* "enduire, cimenter, luter", got. *daigs* "pâte", etc.) ouvre la voie au rapprochement avec hitt. *ḫalina-* "limon, terre glaise". Si l'on se place au point de vue hittite, ce dernier ne sera évidemment pas autre qu'un dérivé en *-na-* de *ḫali-*(1), thème primaire en *-i-* neutre (Kronasser 1962ss.:203s.) qui à l'origine a eu naturellement, lui-aussi, le sens de "limon, terre glaise, etc." (voir donc gr. τεῦχος, τοῦχος en face de got. *daigs*): sur le suffixe hitt. *-na-*, voir Kronasser (1962ss.:181ss., avec des exemples

en *-ina-*, dont quelques-uns peuvent reposer sur un ancien thème en *-i-*).

Le fait que jusqu'ici personne ne semble avoir jeté le pont entre *hali-*(1) et *halina-*, s'explique sans doute par la transcription *hāli-* pour le premier mot (cf. p. ex. Friedrich 1952ss.:46), transcription reposant évidemment sur la soi-disant graphie pleine: or il est évident que celle-ci, vu les nombreux flottements graphiques, n'autorise en général pas à fixer une voyelle comme étant longue (Kronasser 1962ss.: 27ss.).⁴

Pour ce qui est de *halina-*, c'est à bon droit que Tischler (1977s.: 131s.) le compare à gr. ἄλυνειν· ἀλεῖφειν (Hésych.), lat. *linere* "oin-dre". Notons que Beekes (1969:40) a tenu compte de la possibilité d'une voyelle prothétique dans gr. ἄλυνειν et de **H₂* à l'initiale de la forme primitive. A la lumière de hitt. *hali-*(1), *halina-* et de gr. ἄλυνειν on reconstruira donc i.-e. **H₂eli-*(-), thème indo-européen neutre en *-i- (type de skr. *vāri* "eau", lat. *mare* "mer", etc.). Ce **H₂eli-*(-) "limon, terre glaise, etc." a déjà été élargi par *-no- en indo-européen même comme le prouvent hitt. *halina-*, gr. ἄλυνειν < *ἀλυ-νῃν et lat. *linere*, les deux derniers verbes étant évidemment construits sur le thème nominal en *-no- de la phase **H₂li-*.

3. Pour hitt. *hali-*(3) (et *haliḫa-*) "veille, garde, garde de nuit", louv. *halli-* "jour" (?), louv. hiér. *hali-* "jour, temps" et "clepsydre", Tischler (1977:129s.) admet à bon droit comme notion primitive celle de "unité (de temps)": il renvoie à hitt. *ḡakšur* "Gefäß und Maß für wertvolle Nahrungsmittel; auch Zeitmaß und Unterteil des *gipeššar*" (cf. Friedrich 1952ss.:242; pour hitt. *gipeššar* "Elle", cf. ibid. 110) et aussi à all. *Glas* "verre" qui dans le jargon des marins a le sens de "demi-heure". Cela signifie que contrairement il faut partir, je pense, d'un terme hitt., etc. *hali-* "*réceptient".

⁴Personnellement je ne vois que quelques exceptions, p. ex. celle des thèmes nominaux en *-āi-* < i.-e. *-ōi-.

Quant à l'origine de ces mots anatoliens, Tischler note: "Ohne Etymologie". Je crois cependant que non seulement le hittite, mais aussi d'autres langues indo-européennes possèdent des vocables dont on peut rapprocher hitt., etc. *hali-* "*réipient". En hittite il y a *haliyani-* "Rhyton (Trinkhorn)" qu'il faut en tout cas analyser en *hali-* et un suffixe *-yani-*. Mais il y a aussi hitt. *halyani-* qui désigne un "Gefäß für Flüssigkeiten", "Kanne" (?), il y a hitt. *haldutti-*, un autre "réipient" qui contient *hal-* et le terme hitt. *duddu-* "ein Meßgefäß", et il y a aussi hitt. *halyattalla-*, également un "réipient". D'ailleurs ces trois mots signifiant "réipient" ont déjà été rapprochés de hitt. *haliyani-* par Tischler (1977s.:132, 135, 138s.) qui tient l'origine du "Grundwort" *hal(i)-* pour obscure (p. 139). De toutes ces formes se dégage en effet un élément central *hal-* et *hali-*, dont à mon avis le dernier s'observe tel quel, donc sans autre élargissement, dans hitt., etc. *hali-* "*réipient" que l'on trouve dans hitt. *hali-*(3) "veille, garde, garde de nuit", etc.

Pour expliquer la différence dans la structure phonétique de *haliyani-* et de *halyani-* (auquel on peut ajouter *hal-* dans *haldutti-* et aussi *halyattalla-*), Tischler (1977s.:138s.) tient compte de plusieurs possibilités, comme la syncope, l'anaptyxe ou des suffixes différents. Or il me semble que si l'on considère l'interprétation des mots en question dans une perspective indo-européenne, le principe d'une formation différente est, en effet, de nature à rendre compte de *hali-* à côté de *hal-*. A mon avis hitt. *hali-* "*réipient", etc. rappelle remarquablement gr. ἀλεισον "coupe à boire à deux anses" glosé δέπας (pour le sens, cf. donc surtout hitt. *haliyani-* "Trinkhorn") qui depuis longtemps déjà a été expliqué correctement à partir d'un ancien *ἀλειπρον se rattachant, lui, à i.-e. *lei- "verser" de lit. *lieju* et de v. sl. *lějq* (cf. Pokorny 1959:664s.). Pour le sens de "*réipient, etc." < "verser", cf. lat. *futis* "vas aquarium" en face de *fundere*, gr. χύτρος "pot de terre", χεύς "conge" en face de χέω.

Le témoignage des langues anatoliennes prouve maintenant une racine verbale, signifiant "verser", offrant la forme i.-e. *H₂el- (*H₂:

cf. gr. ἄλεισον) dans hitt. *ḫaluani-*, *ḫaldutti-* et *ḫaluattalla-*, la forme élargie **H₂elei-*, etc. dans hitt. *ḫali-*, etc. < **H₂eli-* (coïncidant pratiquement avec un neutre en **-i-*: cf. ci-dessus hitt. *ḫali-* [1] "Hürde für Großvieh, etc." sous 2) et dans gr. ἄλει(σον), lit. *lie-ju*, v. sl. *lějq* < **H₂lei-*, etc.

Pour *-uani-* dans hitt. *ḫaluani-* et *ḫaliuani-*, cf. Tischler (1977s.: 132) avec renvois (suffixe louvite ?); quant à *ḫaluattalla-*, on a l'impression de se trouver devant une contamination de *ḫalu(ni)-* avec les formes en *-talla-*.

4. Sur la base du participe *ḫapatiaḫant-* "beschädigt" (et du substantif verbal *anda ḫapatiaḫar*) Tischler (1977s.:164s.) reconstruit un verbe hitt. **ḫapatia-* signifiant "± frapper, blesser, tuer", qu'il qualifie cependant de "etymologisch unklar". Or en partant de la notion réellement attestée de "endommager", on parvient à rapprocher hitt. *ḫapatia-* de gr. ἀπάτη "tromperie, fraude, trahison" (> ἀπατάω "tromper"): pour le rapport de "endommager" et de "tromper", cf. skr. *drúhyati* "endommager" en face d'av. *āwi.drušaiti* "tromper, duper", v.h.a. *triogan* "tromper". On reconstruira donc une forme i.-e. **H₂epat-*.

Il est évident qu'en face de la correspondance hitt. *ḫapat(i)a-*: gr. ἀπάτ(η) les interprétations que l'on a avancées jusqu'ici pour le terme grec et qui d'ailleurs étaient toutes très hypothétiques (Chantraine 1968ss.:95; Frisk 1954ss.:118) sont définitivement à rejeter.⁵

5. Jusqu'ici hitt. *ḫappen(a?)-* "offene Flamme"⁶ n'a pas reçu une interprétation satisfaisante: Tischler (1977s.:165) a eu raison de qualifier de "sehr vage" un rapprochement de Čop avec gr. ὀπίος "rôti, grillé, cuit". A mon avis le terme hittite rappelle plutôt, surtout

⁵Il en est de même des suggestions de Carnoy (1955:9) et de Furnée (1972:234s.).

⁶D'après Neu (1977:274s.) il faut préférer comme graphie *ḫappen(a?)-* à *ḫappin(a?)-* (Tischler 1977s.:165).

pour le sens, gr. ἄπτω "allumer, enflammer; (médio-passif) être allumé, s'enflammer" qui jusqu'à présent a été généralement considéré comme étant le même verb que ἄπτω "attacher, ajuster, atteindre, toucher": cependant je crois qu'il faut donner raison à Szemerényi (1971:656) qui écrit que "It is still best to keep the two meanings apart, etymologically, too". Seulement la coexistence de ἄπτω "allumer, enflammer" et de ἄπτω "attacher, etc." a eu comme conséquence qu'un ancien *ἄπτω < *ἄφ-λω (cf. ἀφί "fait d'allumer") avec *ἄφ- = hitt. *ḥapp(ena)-* a reçu l'aspiration de ἄπτω "attacher, etc."

Pour hitt. *ḥappen(a?)-* et gr. *ἄφ- on reconstruira donc i.-e. **H₂ebh-* (ou **H₂eph-* ?) "flamme; enflammer, allumer". Sur le suffixe *-en(a?)-* de hitt. *ḥappen(a?)-*, voir Kronasser (1962ss.:182s.): de *ḥappen(a?)-* se laisse peut-être dégager une ancienne forme thématique **ḥappa-*.

La correspondance hitt. *ḥappen(a?)-*: gr. ἄπτω "allumer, enflammer" oblige d'écarter non seulement toute autre explication pour gr. ἄπτω "attacher (et) allumer" (cf. e.a. Frisk 1954ss.:126s.; Chantraine 1968ss.:99s.), mais aussi l'interprétation que Szemerényi (1971:656) a avancée pour gr. ἄπτω "allumer" seul. D'autre part le fait que personnellement je ne distingue aucune explication admissible pour gr. ἄπτω "attacher" n'est d'aucune importance, je pense, pour la solution que j'ai donnée au problème de ἄπτω "allumer".

6. Hitt. *ḥapšalli-* "tabouret, sellette, escabeau" (all. "Schemel"; cf. Friedrich 1952ss.:55 qui note "dient als Frauenstuhl") n'a pas encore été expliqué: cf. Tischler (1977s.:167). Or *ḥapš(a)-* nous met tout simplement en présence du correspondant hittite du mot qui en balte, en slave, et en germanique désigne le "tremble" (= all. *Espe*): cf. lett. *apse*, v. pruss. *abse*, lit. *apušė*, *epušė*, russ. *osina*, polon. *osa*, germ. (où métathèse *-ps- > -sp-) v.h.a. *aspa*, v. isl. *qsp*, etc. "Espe" pour lesquels Pokorny (1959:55) a reconstruit i.-e. **aps(ā)-*. A la lumière de hitt. *ḥapš(a)-* on posera donc maintenant i.-e. **H₂eps(ā)-* *ḥapšalli-* (> aussi *ḥaššali-* avec assimilation), où *-(a)lli-* est évidem-

ment un suffixe (Kronasser 1962ss.:211ss.), a donc désigné à l'origine un tabouret, etc. fait "en bois de tremble". Mais comme les noms d'arbres et de plantes en général sont exposés à de multiples modifications sémantiques, il se peut très bien que chez les Hittites *ḫapš(a)-* ait été employé pour un arbre offrant une certaine ressemblance avec le "tremble".

7. Hitt. *ḫardu-* "arrière-petit-fils (?); descendant", louv. *hiēr. ḫartu-* "descendant", louv. *ḫarduwatt-* "arrière-descendance" n'a pas encore reçu une explication: cf. Tischler (1977s.:189). Or il me semble qu'avec hitt., etc. *ḫardu-* "(arrière-)descendant" on se trouve devant le correspondant anatolien de lat. *artus*, *-ūs* "jointure, articulation, membre", gr. ἀρτύν· φιλικὸν καὶ σύμβασις, ἀρτύς· σύνταξις (Hésych.), arm. *ard*, gén. *-u* "struttura, costruzione, ornamento", skr. *ṛtú-* "ordre, moment fixé", tokh. A *ortu(m)* "aimable, amical" (pour ce dernier, cf. Van Windekens 1976:342 et 1979:146). Ce thème **artu-* (**ṛtu-*) se rattache à i.-e. **ar-* de gr. ἀραρίσκω "adapter, ajuster, construire", dont on citera aussi des dérivés directs et indirects tels que ἀρθμός "lien, union, amitié", ἄρθμος "lié, uni", ἀρθμέω "se lier, s'unir". Hitt., etc. *ḫardu-* "(arrière-)descendant" présente donc précisément la notion de "lien" ou d'"union" dans l'idée centrale de "lignée" ou de "générations qui se succèdent": voir d'ailleurs une évolution sémantique analogue dans i.-e. **bhendh-* "lier" (got. *bindan*, skr. *bādhnāti*, etc.) avec gr. πενθερός "beau-père", lit. *beñdras* "compagnon", skr. *bāndhu-* "relation, connexion, association, parenté", tokh. AB *pānto* "assistance, aide, compagnon" (pour le terme tokharien, cf. Van Windekens 1976:352 et 1979:29, 253).

Le témoignage des langues anatoliennes oblige de poser désormais i.-e. **H₂er-* et **H₂er-tu-* au lieu des traditionnels **ar-* et **ar-tu-*.

8. Hitt. *ḫatuka-/i-* "terrible, effrayant", avec des dérivés tels que *ḫatugatar* "frayeur, embarras" et *ḫatukeš-* "s'effrayer, s'épouvanter", a surtout joui des deux interprétations suivantes (je laisse de côté les

autres, qui n'ont aucune importance): le rapprochement avec gr. ὀδύσ-(σ)ασθαι "haïr, en vouloir à", lat. *odium* "haine", arm. *ateam* "haïr", got. (Crimée) *atochta* "malum", etc. < i.-e. **od-* et la comparaison avec gr. ἀτύζομαι "être bouleversé, terrifié" (ἀτύζω "terrifier"). Je renvoie ici à Tischler (1977s.:227ss.) qui préfère i.-e. **od-* comme origine, non seulement "Wegen der morphologischen Parallele mit krimgotisch *atochta*...", mais aussi, semble-t-il, parce qu'à son avis gr. ἀτύζομαι est plutôt isolé ("dies ohne glaubhafte Etymologie").

Or il faut aussi tenir compte de tokh. A *ātukek* "soudainement (?)", dont le sens s'accorde évidemment bien mieux avec la notion exprimée par hitt. *ḫatuka-*, gr. ἀτύζομαι qu'avec celle exprimée par gr. ὀδύσ-(σ)ασθαι, etc. Notons aussi que dans hitt. *ḫatuka-* la partie *-uk(a)-*, qui correspond à gr. *-υγ- (ἀτύζομαι < *ἀτυγζομαι) et à tokh. A *-uk-*, se retrouve dans hitt. *ḫaluga-* "message, ambassade". Comme il est donc impossible de séparer les mots hittite, grec et tokharien, on reconstruira i.-e. **H₂etug-* "terrible, effrayant". Il se peut que skr. *tuj-āti*, etc. "se mouvoir violemment, inciter, lancer" (cf. gr. φέβομαι "s'effrayer" > "fuir") en représente la phase **H₂tug-*.

Pour un rapprochement de tokh. A *ātukek* avec gr. ἀτύζομαι (dans une perspective plus large), cf. Van Windekens (1976:172; mais tokh. A *ā-* et gr. *ā-* ne représentent donc pas i.-e. **ṇ-*). Čop (1975[1976]:131, sous note 149) a aussi comparé tokh. A *ātukek* à gr. ἀτύζομαι, mais en a séparé hitt. *ḫatuka-*, etc., qu'il fait remonter à i.-e. **od-* (cf. ci-dessus): son argument "einfaches -t- im Heth.!!", c.-à-d. la règle formulée par Sturtevant, est évidemment à écarter (Kronasser 1962ss.: 13s.; Bomhard 1976:221s.).

9. Hitt. **ḫatta-* "± denken, überlegen, klug sein" a été reconstruit par Tischler (1977s.:214s.) sur la base de *ḫattant-* "weise, verständig", *ḫattuhḫ-* "klug, verständig machen", *ḫattatar-* "Verstand, Weisheit". Quant à l'interprétation de ce **ḫatta-*, jusqu'ici rien de tenable n'a été proposé: sur le rapprochement avec lydien (?) *attis*, voir la réaction plutôt négative de Gusmani (1964:272).

Je suis d'avis que hitt. **hatta-* s'explique excellemment à partir d'i.-e. **od-* qui s'observe dans gr. ὀδμή "odeur", ὄζω "sentir", lat. *odor*, arm. *hot* "odeur", *hotim* "sentir" (sur arm. *h-*, cf. Bomhard 1976: 231s.), etc. Pour le sens de "sage, intelligent, etc." de hitt. **hatta-*, cf. une évolution sémantique analogue dans v. isl. *snotr*, got. *snutrs* "sage, intelligent" < "mit Spürsinn begabt" en face de v. isl. *snýta*, etc. "(se) moucher" (De Vries 1962:526 écrit à ce propos "Der Begriff 'klug' hat sich aus 'schnüffeln, spüren' entwickelt") et aussi dans lat. *sapere* "avoir du goût, de la saveur (ou du parfum)" > "avoir du discernement, être sage, se connaître en, comprendre, savoir, etc."

Il est à remarquer que hitt. **hatta-* prouve clairement i.-e. **H₃ed-* et s'oppose donc par lâ à l'idée d'une ancienne forme apophonique *o* de *e* défendue par Beekes (1969:130s.). D'autre part hitt. **hatta-* avec *-tt-* vient renforcer les objections, d'ailleurs motivées d'une façon convaincante, contre la "règle" bien connue de Sturtevant (Kronasser 1962ss.:13s.; Bomhard 1976:221s.).

10. Hitt. *halentu-/halentiu-* (aussi *halentuua-*) a été traduit par "Rasthaus" (?) et par "Wohnpalast" (sur la *construction* elle-même, cf. dernièrement Otten 1976:13ss.). Il est à noter que dans les deux traductions précitées on trouve au fond la même notion, puisque "se reposer" ("Rasthaus") et "habiter, séjourner" ("Wohnpalast") convergent quand même dans l'idée de "détente", de "relâchement" ou de "tranquillité". C'est pourquoi que le rapport proposé par Tischler (1977s.:128) avec hitt. *hali-*(1) "Hürde für Großvieh, Viehhof; Mauer" me semble plutôt invraisemblable: en effet hitt. *hali-*(1) n'a désigné à l'origine qu'un "mur" ou une "clôture murée" (cf. ci-dessus sous 2.), sens qui n'implique pas nécessairement l'idée de "détente", etc. D'ailleurs à mon avis il est pratiquement impossible de concilier *halentu-* avec *hali-*(1) au point de vue de la structure morphologique.

Je crois que hitt. *halentu-* s'explique excellemment si on le compare à lat. *lentus* "souple, mou, indolent, nonchalant", v.h.a. *lind(i)* "doux, tendre", ags. *līðe* "bénigne, doux, aimable": pour la notion de

"repos, détente, relâchement, etc.", voir surtout lit. *leñtas* "calme, tranquille" < polon. *lenty* "nonchalant, indolent" < lat. *lentus*. Pour hitt. *halentu-* on posera i.-e. **Helent-*, pour lat. *lentus*, v.h.a. *lin-*(i), etc. on reconstruira i.-e. **Hlent-*.

11. Hitt. *halia-* "niederknien, sich prosternieren; niederfallen", avec sans doute aussi hitt. *halihla-/i-* "sich niederwerfen" et un dérivé comme *haliaatar* "das Niederknien", n'a pas encore été expliqué d'un façon satisfaisante. Tischler (1977s.:130s.) a certainement eu raison de rejeter les comparaisons avec d'autres langues indo-européennes qui ont été avancées jusqu'à présent (on y ajoutera les "essais" de Juret [1942: 20] et aussi l'interprétation trop vague à partir d'i.-e. **el-* "courber" proposé par Čop [1964:71, avec note 138]), mais je ne peux suivre Tischler là où il rattache *halia-* à hitt. *hallāi-* "mettre en mouvement" et/ou à hitt. *hallu-* "profond" dont les significations s'écartent trop de celle de *halia-*.

A vrai dire hitt. *halia-* tire de son isolement le verbe gr. *λάζομαι* à sens primitif "s'abattre, tomber", d'où secondairement "s'élouer, s'écarter" (cf. Chantraine 1968ss.:638): voir les doutes de Frisk (1960:119) sur le rapprochement traditionnel avec gr. *λύνομαι*. (ἐκ-: ?) *τρέπομαι* et skr. *lināti* (gramm.) "se blottir, se cacher, disparaître". Dans *λάζομαι* qui a certainement été créé secondairement sur l'aoriste *λα-σ-θῆναι* (avec -σ- analogique) *λα-* dénonce une base athématique: dans hitt. *halia-* il y a évidemment eu passage aux verbes thématiques en -(i)*ia-*. Pour hitt. *hali(i)a-* on reconstruira i.-e. **Heli-*, pour gr. *λυ(α)-* il faut poser i.-e. **li-*, etc.

12. Pour hitt. *halipi-* qui désigne "ein Angestellter, profaner Würden-träger" Tischler (1977s.:132) a certainement raison de qualifier de "sehr vage" le rapprochement de Kronasser avec hitt. *hali-*(3) "veille, garde", dont le sens repose d'ailleurs sur celui de "*récipient (employé pour mesurer le temps)" (voir ci-dessus sous 3). En réalité le terme hittite est apparenté à lit. *liepiù* "ordonner, commander", v.

pruss. *pallaiþs* "ordre" qui, lui, n'a rien de commun avec gr. *λύπτω* "désirer" (sur ce dernier, cf. Frisk 1960ss.:127s. et Chantraine 1968ss.: 642s. contra Fraenkel 1955ss.:367) et qui se trouve donc isolé. Pour hitt. *ḫalipi-*, dont le sens primitif aura été celui de "qui ordonne, qui commande", il faut reconstruire i.-e. **Helip-* en face d'i.-e. **Hleip-*, etc. pour lit. *liepiù*, etc.

13. Hitt. *ḫapuš-* "nachholen; nachträglich darbringen (rituelle Pflichten: Feste; Opfertiere, Gebäcksorten, Getränke; auch Kleider ?)" n'a pas d'étymologie d'après Tischler (1977s.:168) qui incline à admettre une origine étrangère (louvite ?). A mon avis dans hitt. *ḫapuš-* on trouve enfin un correspondant pour le verbe grec *παύω* "(trans.) faire cesser, empêcher, arrêter; (moy.) s'arrêter de; (pass.) être arrêté, empêché" qui est pratiquement inexpliqué (cf. Frisk 1960ss.:483 et Chantraine 1968ss.:865). Il faut poser comme notion primitive commune celle de "remettre, tarder, temporiser". Hitt. *ḫapuš-* exige i.-e. **Hepus-* (plus probable que **Hepaus-*), tandis que gr. *παύω* continue i.-e. **paus-*.

14. Hitt. *ḫattalu-* "verrou", avec e.a. *ḫataluāi-* "fermer au verrou", n'a pas encore reçu une interprétation plausible: Tischler (1977s.: 219) qualifie à bon droit de "nur oberflächlich ansprechend" la comparaison de Juret avec gr. *ὀδελός* "broche à rôtir", puisqu'en ionien-attique il y a la forme *ὀβελός*, *ὀβολός* (l'autre comparaison de Juret [1942:59] avec gr. *τύλος* "cheville de bois" est encore plus caractéristique pour les tendances "omnicomparatistes" de ce linguiste).

En réalité hitt. *ḫattalu-* est apparenté à v. norv. (*horn*)*tylla* "(das die Hörner zweier im Gespann ziehender Ochsen verbindende) Holzstück", m.h.a. *zol(l)*, *zolle* "pièce de bois cylindrique, souche, billot", m.b.a. *tol*, *tolle* "branche, extrémité d'une branche", etc. Pour le sens de "verrou" < "morceau de bois, branche, bâton", cf. all. *Riegel* < m.h.a. *rigel* "Querholz, Verschlussstange von Holz oder Eisen", et aussi m.b.a. *grindel*, *grendel* "Querholz, Riegel, Pflugbaum". Pour hitt. *ḫattalu-* on partira d'i.-e. **Hedel-*, etc. et pour les formes germaniques (avec

thème en *-n-, etc.) d'i.-e. *Hdel-, etc. Il est à remarquer que dans ce cas aussi -tt- du hittite s'oppose clairement à la "règle" de Sturtevant (voir ci-dessus hitt. *hatta- sous 9).

15. Pour hitt. *hatak-* "fermer" (des portes), avec l'adjectif *haku-* "étroit, dur, difficile", quelques linguistes se sont associés à la comparaison de Benveniste avec av. *aḍka-*, skr. *átka-* "manteau, armure" (cf. Tischler 1977s.:225), mais Jonsson (1978:64) a certainement raison de la rejeter ("Unsatisfactory etymology: 'close' and 'cloak' are perhaps not incompatible but far from closely related concepts"). Seulement toutes les autres interprétations que l'on a avancées jusqu'ici, sont également à écarter: cf. Tischler (1977s.:225) qui à bon droit n'a même pas mentionné les "suggestions" de Juret (1942:59).

Je crois que hitt. *hatak-* s'explique excellemment si on le rapproche des termes germaniques m.h.a. *zacke* = all. mod. *Zacke*, m.b.a. *tacke*, néerl. *tak* "pointe, branche, dent", m. angl. *takke* "fibula", angl. mod. *tack* "cheville, clou", termes qui jusqu'ici se trouvaient isolés. Pour le sens, cf. lat. *claudere* "fermer" en face de *clāvis* "clé, loquet, barre" et de *clāvus* "cheville (en bois et en fer), clou". Pour hitt. *hatak-* il faut reconstruire i.-e. *Hedk-, tandis que pour les formes germaniques il faut partir d'i.-e. *Hdek-, etc.

b. *hi-*

16. L'interprétation de hitt. *hippara-* "Eingesperrter (d.i. auch eine niedrige Menschenklasse)" (cf. Kronasser 1962ss.:186) est restée obscure jusqu'ici: voir Tischler (1977s.:251s.). Cependant je pense que le mot hittite est tout simplement apparenté à gr. οὔφω "futuo", avec οὔφολης "fututor", qui ne peut évidemment être séparé des synonymes skr. *yābhati*, v. sl. *jebq*, etc.: hitt. *hippara-*, où -(a)ra- est naturellement un suffixe (voir Kronasser 1962ss.:186s.), vient donc confirmer la reconstruction *H₃eibh- suggérée (sous réserve) par Beekes (1969:55 et 97) sur la base de gr. οὔφω en face de skr. *yābhati* < i.-e.

**H₃iēbh-*⁷, et reposera, lui, sur i.-e. **H₃iēbh-*. Le sens du mot hittite a sans doute été à l'origine celui de "(homme) vulgaire". A remarquer qu'avec *-pp-* la forme hittite s'ajoute à hitt. **hatta-* (cf. ci-dessus sous 9) et à hitt. *hattalu-* (cf. ci-dessus sous 14) comme exemple s'opposant à la "règle" de Sturtevant.

Hitt. *hippara-*, avec donc *hi-* < **H₃i-*, prouve à mon avis que hitt. *hišša-* "timon" est, lui-aussi, un terme autochtone, apparenté à skr. véd. *īṣā́*, m.s., offrant dans *h(i)-* une laryngale primaire (voir déjà e.a. Lindeman 1970:39s.; Tischler [1977s.:252s.] incline à admettre, avec Pisani et Kronasser, une origine [indo-européenne ?] comme pour hitt. *hišša-* et skr. véd. *īṣā́*; hésitation encore chez Jonsson 1978: 66).

c. *hu-*

17. Pour hitt. **hura-* "Schmuck(stück)" (?) que l'on dégage comme second terme du composé *ištamahura-* "Ohrring" (?) et pour le verbe (dénominal) *hurāi-* "schmücken" (?), qui jusqu'ici n'ont joui d'aucune tentative d'interprétation (cf. Tischler 1977s.:299s.), je propose un rapprochement avec gr. *ἀεῖρω* "attacher, suspendre" (coïncide peut-être avec *ἀεῖρω* "soulever, tenir suspendu"), alb. *vjër* "suspendre, accrocher", lit. *virvė* "corde", etc. En ne tenant compte que de gr. *ἀεῖρω* (les deux verbes) seul, Beekes (1969:57) a reconstruit i.-e. **H₂uer-* (Chantraine [1968ss.:22s.] songe à une prothèse ou un *ə₂*): hitt. *hur-* confirme cette reconstruction et remonte lui-même à i.-e. **H₂eur-* (**H₂ur-*, théoriquement possible, est évidemment improbable). Dans alb. *vjër*, lit. *virvė*, etc. il y a i.-e. **H₂uer-* comme dans gr. *ἀεῖρω*.

⁷Je ne crois pas que la théorie laryngale puisse expliquer la consonne initiale de gr. *Ζέφυρος* comme l'admet (sous réserve) Beekes (1969: 97s.: < **H₃iēbh-*). De même je ne veux pas tirer des conclusions de sogd. "y'np̄t" "futuit".

Pour le sens, cf. all. (*Oh*r)gehänge et fr. *pendant* (d'oreilles), d'où la notion générale de "Schmuck, etc."

18. Au lieu d'être un emprunt à l'accadien, hitt. *ḫuṣa-*, *ḫuṣara-*, qui désigne un "Orakelvogel" (Tischler 1977s.:320s. et 332, avec des réserves sur ledit emprunt dans "Eher jedoch Elementarparallele"), me semble avoir une origine indo-européenne: il explique gr. αῦω, αὔσαι "crier", dont le rapprochement traditionnel avec lat. *jubilare* "pousser des cris" et gr. ὠγή "cri de douleur" n'a pu rendre compte d'une façon convaincante. Pour hitt. *ḫuṣa-* (*ḫuṣara-* contient évidemment le suffixe *-ra-* pour lequel je renvoie à Kronasser 1962ss.:186s.) je propose de partir d'i.-e. **H₂u-ū-* > **H₂ū-* > (thématisation) **H₂uṣo-*, pour gr. αῦω αὔσαι (sur αῦω voir maintenant Frisk 1972:45) d'i.-e. **H₂u-ū-* > **H₂ū-* (donc sans thématisation). On peut se demander si avec hitt. *ḫuṣa-* et gr. αῦω, αὔσαι on ne se trouve pas en présence du même i.-e. **H₂eu-* qui est à la base du gr. αὐδή "voix (humaine), son, langage", skr. *vādati* "parler" (Beekes [1969:56s. et 89] reconstruit **H₂eu-* pour gr. αὐδή et **H₂ued-* pour skr. *vādati*).

19. Hitt. *ḫuelpi-* "jeune, tendre, nouveau; (subst. neutre en *-i*) jeune animal" est "Ohne sichere idg. Etymologie" d'après Tischler (1977s.: 259s.) qui énumère quelques tentatives d'explication qui sont à écarter (on y ajoutera celle de Juret 1942:69). Or je crois qu'il faut rattacher le terme hittite à i.-e. **uelep-* reconstruit par Benveniste (1935: 155) pour gr. hom. (f)έλπω "faire espérer", lat. *volup* "à souhait" (< **uelep-*), *lep-ōs* "grâce, charme", *lep-idus* "gracieux, joli" (< **uelep-*). Il est à noter que le thème en *-i-* de hitt. *ḫuelpi-* se retrouve dans lat. *volup*, **volupis* "agréable" (cf. *volup(e) est* "il m'est agréable"). Pour ce qui est du sens, je renvoie à la périphrase bien connue de lat. *lepōs* "Urbanitas elegans et mollis ac faceta; unde homines tales lepidi vocantur" où "mollis" coïncide avec la notion de "tendre" de hitt. *ḫuelpi-*: c'est sur cette notion que repose "jeune, nouveau", tout comme v. pruss. *maldai* (nom. plur.), serb-cr. *mĭlād*, polon. *młody*, russ. *mólođo*

signifient "jeune" en face de lat. *mollis* = skr. *mṛdū-*, v. sl. *mľadv*.

Dans hitt. *huelpi-* le *h* à l'initiale impose évidemment la reconstruction d'une laryngale et, en accord avec ce que j'ai admis ci-dessus sous 1, on s'attendrait à **Huelp-* avec **H* = **H₂* ou **H₃*. Seulement il faut aussi tenir compte de la forme homérique ἐέλπομαι à côté de ἔλπω, etc.: de plus, du même i.-e. **uel-* (cf. lat. *velle*) on a gr. ἐέλδομαι à côté de ἔλδομαι "désirer, aspirer à", de sorte que, même si avec Beekes (1969:63s.) on admet que la voyelle "prothétique" de ἐέλπομαι s'explique par l'influence de ἐέλδομαι, on déplace simplement le problème. Des exemples indiscutables tels que hitt. *eš-* (louv. et pal. *aš-*, louv. hiér. *as-*) "être" = gr. εἶμι < **ésmi*, hitt. *ed-* (louv. *azz-*, pal. *ad-*, louv. hiér. *ata-*) "manger" = gr. ἔδω, hitt. *ešhar* (louv. *aš-ha(r)nu-*) "sang" = gr. ἔαρ assurent la correspondance hitt. *e-* (donc sans *h* devant la voyelle) = gr. *é-*, etc., ce qui prouve la chute de **H₁* en hittite.⁸ Il semble donc exclu de vouloir interpréter *h* dans hitt. *huelpi-* à partir d'i.-e. **H₁* à la lumière de gr. ἐέλπομαι (ἐέλδομαι). Faut-il compter alors pour les formes grecques avec une voyelle prothétique proprement dite qui n'a rien de commun avec les laryngales et qui est limitée au grec (sur ce dernier point, cf. Lejeune 1972: 174s.)?

20. Hitt. *huldala-* qui désigne un "Funktionär im Ritual, Kultfunktionär", s'explique sans doute, d'après Tischler (1977s.:282s.), comme "± Bewahrer, Bewacher, Wächter": voir en effet le verbe dénominatif *hulda-lāi-* "schonen, verschonen (Heiligtümer)". Jusqu'ici *huldala-/hulda-lāi-* n'a pas reçu une interprétation plausible. Or je crois qu'il y a un rapport avec plusieurs mots tokhariens. Tokh. A *wäl*, B *walo* "roi" re-

⁸Une interprétation telle que hitt. *hink-*(1) "remettre, laisser", avec le dérivé *henkan-*, *hinkan-* "épidémie; mort", < i.-e. **enek-* (gr. ἐνεγκεῖν, etc.; cf. Tischler 1977s.:246ss.) me semble trop douteuse au point de vue sémantique pour assurer hitt. *he-* < i.-e. **H₁e-*.

monte à i.-e. *u_elōnt de *u_el- "presser", d'où "contenir, maîtriser" ("roi" = "celui qui contient, qui maîtrise"); le verbe AB *wlāw-* "se contenir, se maîtriser" se rattache au même *u_el-; il en est de même du nom de nombre A *wāłts*, B *yāłtse* "mille" et du verbe A **wāłts-*, B *wāłts-*, **wāłts-* "broyer, écraser" (où le sens primitif de *u_el- à été conservé) qui dans *-ts-* continuent i.-e. *-*tio-*. Sur ces formes tokhariennes, cf. Van Windekens (1976:542s., 554s. et 576s.).

Comme le *-*tio-* signalé représente, dans plusieurs exemples tokhariens, un ancien *-*to-* + *-*io-* (Van Windekens 1979:139s.), on peut poser un ancien *u_el-*to-*, etc. A mon avis c'est le thème en *-*to-* qui s'observe dans *-da-* du mot hittite apparenté *huldala-* (pour -(a)la-, suffixe secondaire, cf. Kronasser 1962ss.:171ss.). Celui-ci prouve donc une origine **Heul-* (**Hul-* me semble moins probable) d'un ancien **Heuel-*.⁹

Pour le substantif hitt. *huldala-* on partira précisément de la notion "celui qui contient, qui maîtrise" et dans le verbe *huldalāi-* le sens de "schonen, verschonen" reposera directement sur celui de "contenir": voir d'ailleurs l'évolution sémantique dans lat. *parcere* dont le sens premier a été celui de "retenir, contenir; se contenir, se retenir".

21. Hitt. *huša-*, dont le sens exact n'est pas connu mais qui porte en tout cas sur un "Teil des Geschirres oder Zaumzeuges", n'a pas d'étymologie: cf. Tischler (1977s.:315), qui cependant incline à admettre une origine non-indo-européenne (hurrite ?). Or du côté indo-européen il faut quand même signaler skr. *uṣṇīṣa-* "Kopfbinde, Turban" et *uṣṇīhā* "Genick" dans lesquels un **us-nī-* "Drehung" se rattacherait à une racine *u_es- "drehen, wickeln" (cf. Mayrhofer 1956ss.:114 et Pokorny 1959:

⁹Pourrait-on préciser ce **Heuel-* en **H₂euel-* sur la base de gr. (éol.) ἀολλής (et ἀελλής ?) "pressé, compact, en foule" dont ᾰ- a été considéré jusqu'ici comme la voyelle copulative (< **sm-*)?

1173). Hitt. *ḫuš-* en correspondant donc à ce **us-* remonterait à i.-e. **Hues-* d'un **Heues-*.

22. Hitt. *ḫuššelli-*, *ḫuššili-*, qui est traduit par "(Lehm)grube" et par "Abort" (?), reste inexpliqué: cf. Tischler (1977s.:315) qui, en écartant à bon droit quelques interprétations insoutenables, s'exprime en faveur d'une origine étrangère. Cependant à mon avis hitt. *ḫuš(š)-* (sur le suffixe *-elli-*, *-ili-*, voir Kronasser 1962ss.:213) doit être rapproché de v.h.a. *waso* "Rasen, Erdscholle, Grube", all. mod. *Wasen* "Rasenfläche, (feuchter) Boden", v. sax. *waso*, m.b.a. *wase* "feuchter Erdgrund, Schlamm", etc. et aussi (dans la perspective de l'hypothèse pélasgique) de gr. ἄσλις "limon d'un fleuve, fange" (pour ce dernier, cf. Van Windekens 1952:73). La forme hittite prouve donc un ancien **Heues-* et remonte elle-même à i.-e. **Heus-* (ou à **Hus-* ?).

23. Malgré plusieurs tentatives hitt. *ḫuda-* "hâte" (d'où adv. *ḫudak* "en hâte") n'a pas encore reçu une interprétation convaincante: cf. Tischler (1977s.:318s.). En renvoyant pour le sens à tokh. A *ymār* "vite, rapidement" en face de A *yme*, B *ymiye* "marche, chemin, route" et B *yām-* "entrer" (cf. Van Windekens 1976:591s.) je propose de rapprocher hitt. *ḫuda-* de lit. *vedù*, v. sl. *vedq*, v. irl. *fedim* "conduire", etc. Au lieu du **uedh-* traditionnel on devrait donc reconstruire désormais i.-e. **Heuedh-*, avec la phase **Heudh-* (ou **Hudh-* ?) pour la forme hittite.

II. Mots présentant *i* à l'initiale

24. Hitt. *inan-* (thème en *-n-*) désigne "eine bestimmte Krankheit" et n'a pas encore été expliqué: cf. Tischler (1977s.:358). Or le mot est sans doute apparenté à skr. *inóti* "faire irruption dans, presser, pousser", av. *inaoiti* "faire violence à, blesser, froisser", *intay-* (suffixe *-ti-*) "violence, offense, peine, souffrance, douleur". C'est donc surtout avec av. *intay-* que s'accorde hitt. *inan-*.

25. Depuis longtemps déjà hitt. **innaru-* "vigoureux, robuste, puissant" (all. "rüstig, kräftig"), dont les dérivés ont été construits sur le thème *innarayu-* (cf. *innarayant-*, m. s., *innarayatar* "vigueur, force", etc.), a été rapproché de la famille de gr. ἀνῆρ, etc. Seulement comme à hitt. **innaru-* s'oppose *annaru-* dans louv. *annaru-mmi-* "fort", il y a la difficulté insurmontable que constitue la différence de la voyelle initiale hitt. *i-* / louv. *a-*: cf. Tischler (1977s.:358ss.). Je pense qu'il faut donc renoncer à cette interprétation traditionnelle à partir de gr. ἀνῆρ, etc. Comme l'opposition hitt. *i* / louv. *a* est normale et régulière si l'on pose un ancien **e* (cf. Bomhard 1976:204s.; voir aussi ci-dessus sous 19), je me demande si en réalité hitt. **innaru-* et louv. *annaru-* ne doivent pas être comparés au substantif grec isolé (τὰ) ἔναρα "armes enlevées à l'ennemi abattu". Pour le sens de "armes", cf. all. *rüsten* "armer", *Rüstung* "armement" en face de *rüstig* "vigoureux, etc."

La notion particulière de "armes (enlevées à l'ennemi abattu)" repose sans doute sur celle de "armes (capturées dans la bataille)" et nous offre l'image des armes de l'adversaire présentées comme butin.

26. Hitt. *intan(n)a-*, *intanni-* qui désigne un "Tuch oder Kleid", n'a pas d'étymologie d'après Tischler (1977s.:362s.), qui cependant n'écarte pas l'idée d'un emprunt à accadien *enū* "Beinbinde". Or il me semble qu'une interprétation indo-européenne n'est pas du tout impossible: je songe à alb. *ent*, *int* "monter la chaîne", gr. ἄτιομαλ (**nt-*) "ourdir une trame", de sorte que dans ce cas hitt. *int-* continue régulièrement i.-e. **ent-*. Pour les suffixes *-(a)n(n)a-* et *-(a)nni-*, cf. Kronasser (1962ss.:181ss. et 221ss.).

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HITTITE *ḫarziyalla-*

CALVERT WATKINS
Harvard University

J. Friedrich in his *Hethitisches Wörterbuch* lists the word *ḫarziyal(l)a-* (*ḫurziyal[l]a-* ?) "Eidechse, lizard". H. Ertem, *Boğazköy metinlerine göre Hititler devri Anadolu'sunun faunası* (Ankara, 1965), pp. 125-6, similarly glosses *ḫarziyal(l)a-* (*ḫurziyal[l]a-* ?) as "kertenkele, lizard". The spelling *ḫa-ar-* (var. *ḫar-*) in a tablet in Middle Hittite script (*KUB XXXIV 84* + *III 8*, the ritual of Mastigga, *CTH 404*, version 2A) assures the phonetic value of the first syllable as *ḫar-*. Friedrich in *ArOr* 17.247 (1949) had suggested the meaning "lizard" on the basis of passages in the *Ḫedammu* myth (now edited by J. Siegelová *StBoT* 14), where along with the cows and horses, kids and lambs which are the food of the hungry sea-monster are mentioned *?ida]alamuš ḫarziyaluš* NE.ZA.-ZA.^{HI.A} "bad (?) *ḫ.*'s and frogs" (text 2, 14); later, when drunk on just a drop of beer, the monster *Ḫedammu ŪL]kuitki kanišzi nu* NE.ZA.ZA *ḫarziyallušš-a kú-išzi* "recognizes nothing and eats frogs and *ḫ.*'s" (text 16, 19). The point in text 16 is clearly that frogs and *ḫ.*'s are unsuitable food, taboo or unfit to eat, and that the drunken sea-monster has lost his ability to discriminate. The first mention of bad *ḫ.*'s and frogs in text 2 probably said that he did not eat them, or ate everything but them. Siegelová (loc. cit. 72) on the basis of the context of these and other passages argued that the *ḫarziyala-* lived in the water, and ought rather to be translated "Molch, newt". But this claim is not valid; the waters in question are the abode of *Ḫedammu*, and not directly related to the *ḫarziyalla-*.

One of the passages Siegelová cited, a mythological episode in clearly Old Hittite language, is *KUB* XXX 34 + *Bo.* 1509, 4'-6': NE.ZA.-ZA-at išši[t (dāi)...]katta pašzi ḫarziyallašš-at šappuit [dāi "the frog takes it with his mouth[]swallows [it] down; the ḫarziyalla-[takes] it with his šappu-". The word šappu- was of unknown meaning in 1971, when *StBoT* 14 appeared. But the following year K. K. Riemschneider published in *KUB* XLIII 60 a text which clarified šappu-: it means the kind of spiky horns that goats have, as opposed to *karawar*, the crooked horns that sheep have. I 18-20 MÁŠ.GAL-š-an šappuit walḫdu UDU-ušš-an SI^{HI.A}-anda (=karawanda) walḫdu annaš-an UDU-uš tittittet walḫdu "let the billy-goat butt her with his šappu-horns, let the ram butt her with his *karawar*-horns, let the mother sheep butt her with her nose". The former passage then must mean "the ḫarziyalla- takes it with his horns".

The ḫarziyalla- is thus a "nasty" creature, classified with frogs, considered unfit to eat, and having spiky horns. I suggest therefore that ḫarziyalla- means "snail", and that NE.ZA.ZA ḫarziyallušš-a is precisely "frogs and snails". It is noteworthy that both frogs and snails are still regarded as taboo, unfit to eat, in present-day Turkey (fide Engin Sezer).

The pair "frogs and snails" is a *merism* (to utilize H. A. Hoffner's term in *Alimenta Hethaeorum* 63, as I did in a study of the Hittite and Indo-European folk taxonomy of wealth in *Hethitisch und Indogermanisch* [edd. E. Neu and W. Meid, Innsbruck, 1979] 270), just like GUD.^{HI.A} ANŠE.KUR.RA^{MES}-ya "cows and horses" (= "Großvieh"), MÁŠ.TUR SILÁ-ya "kids and lambs" (= the young of "Kleinvieh") in the Hedammu passage cited (text 2, 10-11); "frogs and snails" collectively designate "nasty" little animals viewed as unfit to eat.

The word ḫarziyalla- "snail" still lacks an etymology. Formally we have an agentive suffix -al(l)a- to a stem ḫarziya- assimilated from *ḫartiya- (cf. ḫalziya- "call", Luw. ḫalti-). But plausible cognates are unknown to me.

This interpretation of ḫarziyalla- as "snail" in turn sheds light

on a passage in Maštigga's ritual against domestic strife referred to at the beginning of this note. The text was edited by L. Rost in *MIO* 1.345-79 (1953), but new fragments have been subsequently adduced by Laroche in *CTH*, which permit some revision of her text. Version 2A III 8 ff, now reads, with restorations from parallels or duplicates,

8 *nu* ^{SAL^y} ^{SU.GI} *ḫa-ar-z[(i-ya-al-la-an^a d)]a-a-i nu-uš-šⁱ-kán*
^{SÍG} ^{ZA.GIN} ^{SÍG} ^{SA₅} *an-[(da ḫu-u-la-li-y)]a-zi^b na-an-kán*
 10 *[(A-N)]A[(II) B]E-E[L^c (SIS)]KUR SISKUR š[(e-er ar-ḫa*
wa-aḫ-nu-uz-zi)^d]nu ki-iš-ša-an me-ma-i^e

[(kar-ap.....^f pít-ti-ya-li-iš^g GÌR-aš)] i-da-a-lu-un
EME-an
 12 *[(nu-wa-ra-an iš-ki-ša-az kar-ap-du)IŠ(-TU EME^{HI.A}-šU)]-*
-ya-wa-ra-at^h
[(kar-ap-du i-da-a-lu KA_xU-iš i-da-a-lu-un)]EME-an

- a. Version 1B II 22 *ḫar-zi-ya-al-la-an*, 2B *-l]a-an*.
- b. Version 2B II 22, whence my restoration, has the older spelling *ḫu-u-la-li-iš-zi*.
- c. Version 1B II 23 EN.
- d. 2B sic, the older spelling; 1B has the younger *wa-aḫ-nu-zi*.
- e. Divider absent in 2B.
- f. 1B rasura; 2A]x (not -a]p).
- g. 1B sic; 2B *pít/ád-da-al-li-iš*.
- h. 1B EME^{HI.A}-šU-*ya-wa-ra-an*.

"Then the Old Woman takes a snail and wraps it in blue and red wool, and she brandishes it over the two participants in the ritual and speaks as follows: 'Carry away..., _____foot, the evil tongue. Let it carry it away by its back, and by its tongue let it carry them away, the evil mouth, the evil tongue.'"

Here the crux is the word preceding *gìr-aš* "foot"; the snail is being addressed. Version 1B has *pít-ti-ya-li-iš* *gìr-aš*, which could be rendered "Nimblefoot" -- scarcely an appropriate kenning for a snail. But Version 2B, which consistently shows older and better variant readings, has instead *píd-da-al-li-iš* [(*gìr-aš*)]; this form is not intelligible as a variant of *pittiyališ*, and must be a different word altogether. I propose that the *pít/pát* sign has here the same value that it has in the verb "to dig", commonly transliterated *padda-*, and that the noun with agentive suffix *paddališ* is a derivative of this verb, with a meaning like "shovel". (On the sign *pít/pát* and the verb *padda-*, see most recently J. Puhvel in *Heth. u. Idg.* [supra], though I disagree with his analysis of the latter.) The kenning for the snail, *paddalliš padaš* (*gìr-aš*) is thus "shovelfoot" or "spadefoot": from the broad flat shape of his prominent "foot" a not inappropriate designation of a gastropod. (Despite the striking similarity in epithet, the spadefoot toad [genus *scaphiopus*, order *pelobatidae*] is so named from the function of his foot, not from its shape. He also does not have horns.)

The Old Woman's incantation continues: "Let it (the snail) carry it (the evil tongue) away by its back" (*iškišaz* MH ablative of means, which could have replaced an OH instrumental). Again carrying on the back is very appropriate action for a snail in sympathetic magic; it is the *φερέουμος* who carries his house in the Greek kenning (Hes. Op. 571). "And by its tongues let it (the snail) carry them away, the evil mouth, the evil tongues." The head of a snail has in fact four tentacle-like projections: the two longer "horns", and below them a shorter, smaller pair associated with the organs of smell. I suggest finally that it is these two projections which are referred to in the plural as the snail's "tongues", *EME*^{HI.A}. In the homeopathic ritual it is these "tongues" which are to be the vehicle for carrying away the evil mouth and evil tongue of the quarreling family pair -- father and son, husband and wife, or brother and sister -- for whom the ritual is carried out.

SECTION III

TYPOLOGICAL STUDIES
AND
DISTANT LINGUISTIC RELATIONSHIP

INDO-EUROPEAN AND AFROASIATIC:
NEW EVIDENCE FOR THE CONNECTION

ALLAN R. BOMHARD

0. PREFATORY REMARKS:

The primary purpose of this paper, which is divided into four parts, is the demonstration that Indo-European and Afroasiatic bear a stronger affinity, both in their vocabulary and in their phonological systems, than could possibly have been produced by accident; so strong indeed, that no linguist could examine them without believing them to have sprung from a common source: there is a similar reason, though not quite so forcible, for supposing that both Indo-European and Afroasiatic are merely two branches of a larger macrofamily¹; however, only Indo-European and Afroasiatic will be considered here.

The first part of this paper deals with the reconstruction of the Indo-European phonological system, the second part with Proto-Semitic, the third part with a comparison of the Indo-European and Semitic phonological systems and vocabularies, and the fourth part with a sketch of the prehistoric development of the Indo-European phonological system. The first two parts are merely a review of the current literature, and detailed discussion is mostly avoided. However, abundant references are given, and these should be consulted for details.

¹I am, of course, paraphrasing the now famous third anniversary discourse made by Sir William Jones before the Asiatick Society (of Bengal) on 2 February 1786.

1. THE RECONSTRUCTION OF THE INDO-EUROPEAN PHONOLOGICAL SYSTEM²:1.1. *The Neogrammarian System:*

The attempted reconstruction of the Indo-European phonological system has had a long history. The first steps were taken in the middle of the 19th century. Then, with each new generation of scholars, a series of brilliant discoveries were made in rapid succession. By the end of that century, the phonological system reconstructed by the Neogrammarians (most notably Karl Brugmann) was widely accepted as being a fairly accurate representation of what had existed in Indo-European. To this day, the Neogrammarian system commands a great deal of respect and has many defenders.

The Neogrammarian system consists of a four-way contrast of plain voiceless, voiceless aspirated, plain voiced, and voiced aspirated stops (cf. Brugmann 1904:52). This system is extremely close to the phonological system of Old Indic (cf. Mayrhofer 1972:17). It should be pointed out that, in spite of its wide acceptance, a small group of scholars has, from time to time, questioned the validity of the Neogrammarian system, at least in part (for a discussion of some of the opposing views, cf. Hopper 1977b:57-72 and Szemerényi 1972:122-36).

The Indo-European phonological system as reconstructed by Brugmann (1904:52) sums up the views of this period:

Monophthongs:	a	e	o	i	u	ə			
	ā	ē	ō	ī	ū				
Diphthongs:	ai	ei	oi	əi		au	eu	ou	əu
	āi	ēi	ōi			āu	ēu	ōu	

²The sections of this paper dealing with the reconstruction of the Indo-European phonological system are, in large part, condensed from my article entitled "The Indo-European Phonological System: New Thoughts about its Reconstruction and Development" (*Orbis*, XXVIII/1, 1979).

Syllabic Liquids and Nasals:					r̥	l̥	m̥	n̥	ɳ̥	ŋ̥
					r̄	l̄	m̄	n̄	ɳ̄	ŋ̄
Occlusives:	p	ph	b	bh	(labial)					
	t	th	d	dh	(dental)					
	ḱ	ḱh	ǵ	ǵh	(palatal)					
	q	qh	g	gh	(velar)					
	q ^u	q ^u h	g ^u	g ^u h	(labiovelar)					
Fricatives:	s	sh	z	zh	ʃ	ʃh	ʂ	ʂh		
Nasals:	m	n	ɳ̄	ŋ						
Liquids:	r	l								
Semivowels:	j	ɥ								

1.2. *The System of Lehmann:*

The evidence for the existence of voiceless aspirates in Indo-European is extremely slight, coming almost exclusively from Indo-Iranian (cf. Meillet 1967:103-9). This fact has led a number of scholars to deny the phonemic status of these sounds in Indo-European and to suggest that their occurrence in the daughter languages is due to secondary developments. The first to suggest that the voiceless aspirates might be secondary was Ferdinand de Saussure. In a paper presented in 1891, he derived these sounds from sequences of plain voiceless stop plus a following "coefficient sonantique". A laryngeal explanation, along the lines proposed by de Saussure, has much to recommend it in many cases (for discussion and examples, cf. Allen 1976:237-47; Burrow 1973:71-3 and 393; Kuryłowicz 1935:46-54; Lehmann 1952:80-4; Polomé 1971:233-51; Sturtevant 1942:83-6). While de Saussure's theory accounts for the origin of some cases of voiceless aspirates, it does not explain all. There is a small group of words of onomatopoeic origin that contain voiceless aspirates (cf. Meillet 1967:106 for examples); a laryngeal explanation can be ruled out here. Finally, some voiceless aspirates in Indo-Aryan seem to owe their origin to the spontaneous aspiration of the plain voiceless stops after a preceding *s* (cf. Burrow

1973:72 and 393; Hiersche 1964; Polomé 1971:239-43). The conclusion seems inescapable that the voiceless aspirates were not, in fact, phonemic in Indo-European. The voiceless aspirates found in the onomatopoeic words are probably the only ones that should be assigned to Indo-European and are to be regarded here simply as nonphonemic variants of the plain voiceless stops.

With the removal of the voiceless aspirates, diphthongs, and palatals, and the addition of four laryngeals, we arrive at the system of Winfred P. Lehmann. Lehmann's reason for removing the diphthongs is that their patterning in the system of vowel gradation requires that they be reanalyzed as clusters of vowel plus resonant and resonant plus vowel. He follows Meillet (1964:91-5) in regarding the palatals as a secondary development of the satem dialects. Finally, he posits four laryngeals: x , γ , h , $?$. He uses the same symbols as Sturtevant (1951:47-55) but differs slightly in his phonetic interpretation.

The Indo-European phonological system as reconstructed by Lehmann (1952:99) is as follows:

Obstruents:	p	t	k	k ^w
	b	d	g	g ^w
	b ^h	d ^h	g ^h	g ^w h
		s		
Resonants:	m	n		
	w	r	l	y
Vowels:		e	a	o
	i	e	a	o
Laryngeals:			x	γ h ?

1.3. *The System of Gamkrelidze-Hopper-Ivanov:*

When the Indo-European stop system as reconstructed by Lehmann is compared with the stop systems of living languages, Lehmann's system is found to be totally without typological parallels. Oswald Szemerényi

(1967:88-99) has attempted to bring Lehmann's system into harmony with natural systems by reinstating the voiceless aspirates and by reducing the laryngeals to a single member, the voiceless glottal fricative /h/. Even though the resulting system is indeed typologically natural, it completely ignores the probability that the voiceless aspirates were not phonemic in Indo-European. A return to the Neogrammarian system with a four-way contrast in the stop system just will not do. The only alternative is to seek a typologically acceptable and historically probable alternate reconstruction for the Indo-European stop system.

Recognizing that Indo-European had a three-way contrast instead of a four-way contrast in the stop system plus the fact that such a system is typologically isolated, several scholars have made attempts to rectify the situation. For example, Jerzy Kuryłowicz (1964:13) has claimed that the voiced aspirates were not phonemically voiced. However, such an interpretation seems improbable in view of the fact that the daughter languages are nearly unanimous in pointing to some sort of voicing in this series in Indo-European (cf. Meillet 1964:86-8 for correspondences and examples). Equally unconvincing is Louis Hammerich's (1967:839-40) suggestion that the voiced aspirates might have been emphatics. For additional discussion, cf. Hopper 1977b:57-72.

Using what may be termed an "integrated diachronic-typological" approach to the problem of the reconstruction of the Indo-European stop system, Thomas V. Gamkrelidze, Paul J. Hopper, and Vjačeslav V. Ivanov have proposed a complete revision of that system. According to Hopper (1973:141-66), the traditional voiced aspirates were really murmured stops, while the traditional plain voiced stops were really glottalized stops (ejectives). Hopper's reason for reinterpreting the plain voiced stops as glottalized stops is that these sounds show many of the typological characteristics of glottalics. Gamkrelidze and Ivanov (1972: 15-8 and 1973:150-6) also reinterpret the traditional plain voiced stops as glottalics, but, unlike Hopper, they reinterpret the plain voiceless stops as voiceless aspirates. They make no changes to the traditional voiced aspirates. They point out, however, that the fea-

ture of aspiration is phonemically irrelevant in a system of this type.

The Indo-European stop system as reconstructed by Gamkrelidze-Hopper-Ivanov may be represented as follows (cf. Gamkrelidze 1976:403):

Glottalized Voiced (Aspirates) Voiceless (Aspirates)

(p')	bh/b	ph/p
t'	dh/d	th/t
k'	gh/g	kh/k
k' ^h	g ^h h/g ^h	k ^h h/k ^h

The resulting system belongs to a quite common type. Similar systems can be found in the Caucasian languages, many American Indian languages, and several sub-Saharan African languages (cf. Ruhlen 1976 for details). The system of Gamkrelidze-Hopper-Ivanov, therefore, fulfills the requirement of typological acceptability that is lacking from the traditional reconstruction. Moreover, their system receives strong support from the fact that the phoneme traditionally reconstructed as **b* was so rare as to be virtually nonexistent in the Indo-European parent language. A gap at this point of articulation is to be expected if the traditional plain voiced stops had been ejectives since it is common for languages having ejectives to lack the bilabial member (cf. Greenberg 1970:127)³. Next, under the revised interpretation, the root structure constraint laws become simply a voicing agreement

³This same observation led Martinet to note in 1953: "Comme il y a fort peu de traces sûres du phonème de l'indo-européen commun reconstruit 'analogiquement' comme **b*, il est tentant de diagnostiquer là aussi une case vide, ce qu'a fait le regretté Holger PEDERSEN dans *Die gemeinindoeuropäischen und die vorindoeuropäischen Verschlusslaute*, p. 10-16. Mais, au lieu de supposer avec Pedersen la disparition d'un **p* pré-indo-européen suivie d'un chassé-croisé des *mediae* et des *tenues*, on pourrait voir dans la série **d*, **g*, **g^w* le résultat d'une évolution à partir d'une série plus ancienne de glottalisées sans représentant labial".

rule with the corollary that two glottalics cannot co-occur in a root (for details, cf. Gamkrelidze 1976:404-5; Hopper 1973:§3.2.6). Finally, the Armenian and Germanic "sound-shifts" turn out to be mirages; under the new system, these branches are to be seen as relic areas. In fact, they provide a key piece of evidence in support of the revisions proposed by Gamkrelidze-Hopper-Ivanov.

1.4. Development of the Glottalics:

There is no uniform treatment of the glottalics. The Germanic, Armenian, Tocharian, and Anatolian developments are straightforward: deglottalization. In the remaining daughter languages, the glottalics have developed into plain voiced stops. The development may have gone as follows: glottalized → creaky voice → full voice. Such a progression is perfectly natural and has parallels in several of the Caucasian languages (cf. Colarusso 1975:82f; Gamkrelidze-Ivanov 1973:154). In the Modern South Arabian languages, "the post-glottalized (ejective) consonants have partially voiced and more rarely wholly voiced variants" (cf. Johnstone 1975:§2.1.2). Another parallel may also exist with several dialects of Arabic, where an earlier */k'/ has developed into /g/ (though perhaps passing through a different progression than that suggested here for Indo-European; cf. Martinet 1975[1959]:241-3).

The development of the glottalics into voiced stops in Indo-Iranian, Baltic, Slavic, Albanian, Italic, Celtic, and Greek must have taken place in the early prehistory of these branches themselves and not in the parent language. That is to say that we are dealing here with parallel developments and not a common innovation. This is proved by the fact that the glottalics were treated differently in each daughter language once they had been changed into voiced stops. In Albanian, Baltic, Slavic, and Iranian, the glottalics merged completely with the traditional voiced aspirates. In Indo-Aryan, the glottalics became plain voiced stops but did not merge with the voiced aspirates. In Italic and Greek, the change of glottalics into voiced stops probably

took place only after the voiced aspirates had become voiceless aspirates (cf. Hopper 1973:§3.3.2) since the two series are kept completely separate. The change of voiced aspirates into voiceless aspirates is not without parallels; one can cite the example of Romany (cf. Meillet 1967:100).

1.5. *The Gutturals:*

In my opinion, Late Indo-European had only two guttural series: (1) plain velars and (2) labialized velars (the latter usually referred to as labiovelars):

k	g	k'	plain velars
k ^w	g ^w	k' ^w	labialized velars

I follow Lehmann (1952:8) and Meillet (1964:91-5) in not assigning a third series, the traditional palatals, to Proto-Indo-European but in viewing the phonemicization of palatalized velars as an innovation of the Disintegrating Indo-European antecedent of the satem languages⁴. The gutturals probably developed as follows (cf. Bomhard 1979:§5):

- A. Late (i.e., post-Anatolian) Indo-European had the two guttural types mentioned above. The plain velars, however, had nonphonemic palatalized allophones when contiguous with front vowels and apophonic *o* as well as before *y* (and perhaps in some cases even before *α*)⁵.

⁴The fullest discussion of the development of palatalized velars in Indo-European is to be found in the *Introduzione alla storia delle lingue indoeuropee*, pp. 28-34, by the Bulgarian master Vladimir Georgiev.

⁵In his cross-linguistic study of palatalization, D. N. S. Bhat (1978:60-7) discusses palatalizing environments. He notes (p. 60): "The most prominent environment that could induce palatalization in a consonant is a following front vowel (especially the high- and mid-front unrounded vowels *i* and *e*), and a following palatal semivowel (*yod*). These are reported to be effective in palatalizing a preceding

- B. In the Disintegrating Indo-European antecedents of the satem languages, the labialized velars are (perhaps only partially at first) delabialized. The newly delabialized velars merge with the unpalatalized allophones of the plain velars. This change then brings about the phonemicization of the palatalized allophones of the plain velars since both palatalized and unpalatalized (from earlier labialized) velars are now found in the vicinity of front vowels, apophonic *o*, and *y*. Thus, the Disintegrating Indo-European antecedents of the satem languages had the following gutturals (cf. §4.5):

c	ç	c'	palatalized velars
k	g	k'	plain velars
(k ^w	g ^w	k' ^w	labialized velars) ⁶

- C. Various shifts and levelings occur in the prehistory of the individual satem daughter languages that tend to obscure the earlier distribution of the gutturals (cf. Burrow 1973:76-7). More study is needed here to delineate these developments in as full detail as possible.

1.6. *Vowel Gradation:*

The form of Indo-European spoken immediately prior to the emergence of the non-Anatolian daughter languages was characterized by an

consonant in almost all of the languages examined by us. A following yod is more effective on apicals, whereas a following vowel, especially stressed, is more effective on velars... Velars may also be palatalized by a following low front vowel..." (p. 62) "There are only a limited number of instances in which a front vowel (or a high back vowel) is reported to have palatalized a following consonant". That is to say that, while the latter does in fact occur, it is a far less frequently attested phenomenon than the palatalization of a preceding consonant. Bhat (1978:66) also discusses the fact that certain environments may block palatalization: "We have noted only two environments that could be specified as capable of blocking palatalization. They are (1) an apical trill or tap, and (2) a retroflex consonant. Both these could prevent the palatalization of a velar consonant; that is, they could block the tongue fronting tendency of a given environment".

⁶At this time, the labialized velars could only have been marginal phonemes of very limited occurrence (if they even existed at all).

interchange of vocalic elements that could occur in any syllable. This interchange, which is commonly called "ablaut" or "vowel gradation", was partially correlated with the position of the accent and with distinctions between morphological categories. It is usually agreed (cf. Meillet 1964:153-68, e.g.) that $e/\bar{e} \sim o/\bar{o} \sim \emptyset$ were in contrast and that the vowel a played no role in this system. The truth is, however, that a played a central role in the development of vowel gradation.

The reduction and expulsion of a vocalic element is caused by a marked decrease in the amount of stress placed on a particular syllable. When one syllable of a word is stressed more than the other syllables, the vowels of the unstressed syllables tend to be either weakened or lost. This is precisely what has happened in those daughter Indo-European languages that have developed a system of accentuation based upon stress. In like manner, the development of quantitative gradation in the Indo-European parent language, which is the earliest ablaut change that can be recovered, must have been caused by the phonemicization of a strong stress accent (cf. Burrow 1973:108-12; Lehmann 1952:§15.4)⁷. This accent, which was used to denote the morphologically

⁷Hyman's (1978:207) description of stress is exactly what I have in mind for Indo-European: "Correlating with stress is a changing pitch (usually rising from an unstressed to a stressed syllable and falling from a stressed to an unstressed syllable), greater duration (for example, vowel lengthening in a stressed open syllable), and greater force of articulation (for example, the tendency for consonants to become aspirated or geminated). While the pitch characteristics of a word such as *data*, with stress on the first syllable, are not perceptibly different from a sequence of high followed by low tone in an African tone language, linguistic tone has not been shown to have any of the above effects. Since both stress and high tone correlate with prominent pitch, it must be concluded that the segmental effects of stress are due entirely to its *culminative* function. Both vowel lengthening and fortition signal the prominence of a syllable which has culminative stress". Hyman (1975:207-8) also notes: "Since stress has these *intrinsic* properties associated with it, it is not surprising to find languages *phonologizing*...these properties into the rules of the language. Numerous cases of *strengthening* in stressed syllables and *weakening* in unstressed syllables are attested..." Finally (Hyman 1975:231): "In a stress-accent language, a single culminative mark of prominence is possible on a given

distinctive syllable, caused the elimination of the vowels of unstressed syllables. There was a phonemic contrast between those syllables with stress and those syllables without stress. Since an initial syllable might have been considered to be morphologically significant in certain inflectional and derivational categories, and medial or final syllables might have been significant in other categories, the same word could appear in any one of a number of different forms depending upon how it was used grammatically; a particular syllable might have been stressed at one time and unstressed at another. This form of Indo-European may be called "Stress Indo-European". It was probably during this period of development that the syllabic allophones of the resonants came into being.

It must have often happened that more than one syllable of a word was considered to be morphologically significant. For example, according to the rules of derivation and inflection (cf. Bomhard 1975:§3.4 and Burrow 1973:119, 220f, and 303 for details), the initial syllable of a word might have received the stress. At the same time, an inflectional ending might have been added, and this ending, in order not to be ambiguous morphologically, might also have had a full-grade vowel in addition to that found in the accented syllable. When words with more than one full-grade syllable became common, stress ceased to be phonemically distinctive. High pitch then became the suprasegmental marker of the full-grade syllable that would normally have received the stress according to the rules of derivation and inflection, while the remaining full-grade syllable received low pitch. This period of development may be called "Pitch Indo-European". It was during this period that qualitative distinctions arose. According to Lehmann (1952:§15.3), an original *e*-grade vowel was changed to an *o*-grade vowel when the (high) pitch was moved from the *e*-grade vowel to another syllable. However, even

syllable of a word. The perceptual cues of this stress can be changing pitch, vowel duration, or greater intensity, all contributing to the highlighting of the stressed syllable."

though I agree that pitch was the conditioning agent, I think that these theories must be modified. I agree with Schmitt-Brandt (1967: 124f) that the original vowel was *a* and not *e*. Furthermore, as noted on the preceding page, I think that there must have been two types of pitch, viz., high pitch and low pitch (cf. Bomhard 1979:§26; Kiparsky 1973:794f)⁸. Under high pitch, *a* and *ā* developed front allophones, and, under low pitch, they developed back allophones. (A similar phenomenon may be observed in the Saigon dialect of Vietnamese, where the vowel [a] has front allophones under high tones and back allophones under nonhigh tones [cf. Thompson 1965:90]). The allophones of *a* and *ā* became phonemic when a morphologically conditioned pitch shift caused them to become partially disassociated from pitch distribution. This pitch shift may be equated with the beginnings of the development of columnar accentuation.

The development of qualitative gradation may be illustrated by positing a Stress Indo-European **t'iwā*, the nom-acc-voc. of a common gender thematic agent noun/adjective meaning "(one) connected with light or brilliance", hence "god, divine". The genitive was formed by adding the ending *-s*, and the fact that this was a weak case was indicated by moving the position of the accent to the first syllable: **t'īwas*. Note that the vowel *a* was retained for clarity. Since the vowel *a* implied the presence of accent, when the accent fell on *i* or *u*, an *a* was inserted, thus creating a secondary full-grade. The resulting form was **t'āiwas*. High pitch then replaced stress as the suprasegmental marker of morphologically significant syllables. Under high pitch, *a* and

⁸Hyman's (1975:231) description of the tonal characteristics of pitch-accent languages is precisely what I think existed in Pitch Indo-European: "In a pitch-accent language, prominence is assigned to a given syllable of a word, but there can be two or more kinds of prominence (for example, a rising vs. a falling contour). Pitch-accent languages are thus tonal to the extent that the feature which is assigned is tone (and that this tone can contrast with another tone in the same position). Pitch-accent languages are like stress-accent languages, however, in that there cannot be more than one syllable per word which receives the tonal accent; that is, prominence in pitch-accent languages is culminative."

\bar{a} developed front allophones, and under low pitch, they developed back allophones. These allophones gained phonemic value when a morphologically conditioned pitch shift caused them to become partially disassociated from pitch distribution: $*t'íwas > *t'áiwas > *t'eíwós$ (cf. Skt. nom. sg. *devá-s* "god", Lith. *dīėvas* "god").

Pitch Indo-European was followed by "Late Indo-European". In Late Indo-European, the front and back allophones of a and \bar{a} became phonemic except that the laryngeals \mathfrak{z}_2 and \mathfrak{z}_4 prevented a contiguous \acute{a} from becoming e . This is a reformulation of the theory that maintains that these laryngeals changed a contiguous e into a (cf. Kurylowicz 1935:28; Sturtevant 1942:§38 and §39). These laryngeals, however, had no effect on the change of \grave{a} and \tilde{a} to o and \bar{o} respectively (cf. Sturtevant 1942: §38 and §43). These developments may be represented diagrammatically as follows⁹:

\acute{a}	>	e ; a (when next to \mathfrak{z}_2 or \mathfrak{z}_4)
\grave{a}	>	o
\tilde{a}	>	\bar{e} ; \bar{a} (when next to \mathfrak{z}_2 or \mathfrak{z}_4)
$\tilde{\grave{a}}$	>	\bar{o}

In Hittite and the other older Indo-European languages of ancient Anatolia, the back allophones of a and \bar{a} must have remained sub-phonemic since there is no evidence that these languages ever possessed o or \bar{o} (cf. Bomhard 1976:§7.3). This implies that the Anatolian languages must have become separated from the main speech community before the phonemicization of o and \bar{o} , that is

⁹Martinet (1975[1972]:113) seems to have had in mind developments similar to what I postulate for the vowel $*a$ in Indo-European: "Il y a eu une période où [a] était une des réalisations du phonème vocalique unique et, selon toute vraisemblance, la réalisation la plus normale. Ce n'est pas qu'à partir du moment où la voyelle s'est scindée en /æ/ et en /ā/ ouvrant la voix jusqu'au /e/ et /o/ fermés du grecque attique, qu'emprunts, formes expressives, onomatopées diverses se sont réalisés avec une voyelle que nous retrouvons, dans les langues attestées, sous la forme d'un /a/, phonème qu'il faut, dès avant le début de toute diaspora connue, passer comme distinct au moins de /e/."

to say, before the period of development that I have called "Late Indo-European".

In "Disintegrating Indo-European", laryngeals were lost (1) initially before vowels and (2) after vowels when a nonsyllabic followed (cf. Lehmann 1952:§15.6E.b). The loss of preconsonantal laryngeals after short vowels caused these vowels to be lengthened (cf. Kuryłowicz 1935:28; Lehmann 1952:§3.6B; Sturtevant 1942:66f).

1.7. *The Long Vowels:*

The origin of the long vowels has always been enigmatic. Many theories have been proposed, none of which has been completely satisfactory. One thing seems certain, though: the long vowels developed over a long period of time and had many causes.

On general theoretical and typological grounds, I think it probable that long vowels always existed¹⁰. That is to say that long vowels were inherited from pre-Indo-European. In addition to those inherited from pre-Indo-European, new long vowels arose from the contraction of two short vowels. Though probably not frequent in the earlier stages of development, contraction became increasingly important, especially in the later stages of the parent language and the early stages of the daughter languages when the upheavals that were caused by the loss of whole classes of phonemes often brought two or more previously separated vowels into contact. Finally, vowels were lengthened to

¹⁰One of the reasons that I assume that long vowels existed in pre-Indo-European as well as in every period of development in Indo-European proper is that I believe that Indo-European always had a contrast between heavy syllables and light syllables, and, in general, "all languages with a heavy vs. light syllable dichotomy have a vowel-length contrast, that is CV contrasts with CV:, which patterns with CVC" (cf. Hyman 1975:206). Another reason is that the comparison with the Afro-asiatic languages demands that long vowels be reconstructed.

compensate for the loss of a following phoneme. The most significant cause of compensatory lengthening was the loss of preconsonantal laryngeals after short vowels in Disintegrating Indo-European.

1.8. *The vowels i and u:*

In reconstructing the Indo-European phonemic system, the vowels *i* and *u* are usually treated as allophones of *y* and *w* respectively and are classed together with *m*, *n*, *l*, *r* (cf. Lehmann 1952:10f; Meillet 1964:105f). However, the patterning of *i* and *u* is not entirely parallel to that of the other resonants, and Szemerényi (1967:82) is thus quite justified in questioning the validity of the traditional treatment. These vowels should, in fact, be considered as independent phonemes (cf. Bomhard 1975:§3.7).

The traditional treatment assumes that *i* and *u* result from the weakening of full-grade forms when the accent is shifted to another syllable (cf. Burrow 1973:108f). The patterning found in the daughter languages suggests such an interpretation, but that patterning may not be original in every case. It can be convincingly demonstrated in several cases that secondary full-grades have been created from weak-grade forms (cf. Anttila 1969:163f). Both Schmitt-Brandt (1967:8f) and Wyatt (1970:58) assume that every *ei*, *eu*, and the like are secondarily derived, but it is unlikely that such a gradation pattern would have developed were it not for a pre-existing pattern. Hence, though not universally applicable, secondary derivation of full-grade forms is certainly probable in a number of cases.

The vowels *i* and *u* thus had two origins: First, they were independent phonemes inherited from pre-Indo-European. Next, they developed from the stress conditioned weakening of full-grade forms.

It seems reasonable to assume that long *i* and *u* were also inherited from pre-Indo-European. When secondary full-grades were created with long *i* and *u*, the result was the same as with short *i* and *u*. This is clear from the thematic optative, which is formed by contraction of

the thematic vowel and the optative ending: $o + \bar{i}$, cf. Gk. $\phi\acute{\epsilon}\rho\omicron\upsilon\varsigma$. This, in part, explains the origin of the short and long weak-grade variation.

1.9. *Accentuation:*

The system of accentuation of Late Indo-European was characterized by contrasts in pitch, two types of which were distinguished: high pitch and low pitch. Stress was nondistinctive. Every word, except when used enclitically, bore an accent; however, each word had only one accented syllable. The accented syllable had high pitch, and all other syllables had low pitch.

The accent could fall on any syllable, initial, medial, or final. The position of the accent was morphologically conditioned, accentuation being one of the means by which Indo-European distinguished grammatical categories. Though originally not restricted to a particular syllable, there was a tendency to level out the paradigm and fix the position of the accent throughout. This tendency, the development of columnar accentuation, began in Late Indo-European and continued through Disintegrating Indo-European into the daughter languages. Therefore, the earlier system is only imperfectly preserved in even the most conservative of the daughter languages, Vedic Sanskrit.

There is internal evidence that at one time stress was the dominant characteristic of the Indo-European system of accentuation. The quantitative vowel gradation, of which all of the older daughter languages preserve traces, must have come into being as the result of a strong stress accent. However, in the latest period of development, stress had ceased to have any effect on vowel quantity in the parent language. The preceding treatment closely follows Kiparsky (1973:794f).

1.10. *The Laryngeals:*

The basic (and most broadly-accepted) tenets of the Laryngeal

Theory may be summarized as follows: (1) The Indo-European parent language possessed one or more laryngeals; most scholars posit either three (Beekes, Benveniste, Burrow, Couvreur, Cowgill, Keiler, Lejeune) or four (Kerns-Schwartz, Kuryłowicz, Lehmann, Sapir, Sturtevant). (2) The laryngeals were lost as independent phonemes in all branches of Indo-European except for Anatolian (cf. Bomhard 1976:222f; Lehmann 1952:25f; Puhvel 1965:79f; Sturtevant 1942:35f and 1951:47f) and Armenian, where the laryngeal ḡ_2 appears as h initially before vowels in a small number of words (cf. Austin 1942:22f; Bomhard 1976:§12.11; Sturtevant 1942:§22a; Winter 1965a:102). (3) The loss of preconsonantal laryngeals after short vowels caused the compensatory lengthening of these vowels (cf. Benveniste 1935:149; Bomhard 1979:§3; Kuryłowicz 1935:28; Lehmann 1952:§12.2; Lindeman 1970:17; Sturtevant 1942:66f). (4) One or more of the laryngeals influenced the quality of contiguous vowels (cf. Benveniste 1935:149; Bomhard 1975:§5.5; Couvreur 1937:266f; Kuryłowicz 1935:28f; Lehmann 1952:§12.6; Lindeman 1970:17; Sturtevant 1942:§38 and §39). (5) The so-called "long syllabic resonants" (ṃ , ṅ , ṛ , ṣ) are to be reinterpreted as sequences of m , n , l , r plus laryngeal (cf. Burrow 1973:87; Lehmann 1952:§12.3; Sturtevant 1942:§69). (6) Some cases of voiceless aspirates in Indo-Aryan owe their origin to the former presence of a laryngeal between an immediately preceding plain voiceless stop and an immediately following vowel (cf. Kuryłowicz 1935:29; Lehmann 1952:80f; Lindeman 1970:77f; Sturtevant 1942:83f). (7) Indo-European had no initial vowels; in every instance where initial vowels had been reconstructed for Indo-European by the Neogrammarians, a preceding laryngeal has been lost (cf. Kuryłowicz 1935:29). (8) Finally, the laryngeals could have both syllabic and nonsyllabic variants depending upon their environment (cf. Benveniste 1935:149; Couvreur 1937:303f; Keiler 1970:70f). That is to say that the patterning of the laryngeals was similar to that usually assumed for the resonants. The syllabic form of the laryngeals is commonly associated with the schwa primum reconstructed for Indo-European by the Neogrammarians.

In my opinion, the form of the Laryngeal Theory that conforms best to the evidence found in the daughter languages is that which assumes four laryngeals for the Indo-European parent language. Specifically, I would reconstruct *at least* four laryngeals for pre-Anatolian Indo-European (i.e., "Pitch Indo-European") and for that form of Indo-European existing immediately following the separation of the Anatolian languages from the main speech community ("Late Indo-European"). However, for the Indo-European antecedent of the non-Anatolian daughter languages ("Disintegrating Indo-European"), I would only reconstruct one laryngeal.

Disintegrating Indo-European must have had the full complement of long and short vowels traditionally reconstructed (cf. Szemerényi 1967:67f). Furthermore, Disintegrating Indo-European must have had initial vowels; to assume otherwise would be to ignore the evidence of the non-Anatolian daughter languages as well as to deny the efficacy of the Comparative Method. This can only mean that the vowel-lengthening and vowel-coloring effects usually attributed to the laryngeals must have taken place prior to the Disintegrating Indo-European period. On the surface, it would thus appear as if one could almost get by without positing any laryngeals at all for this period. At least one laryngeal must be reconstructed for Disintegrating Indo-European, however, to account for developments in the non-Anatolian daughter languages such as (1) the Indo-Aryan voiceless aspirates (cf. Burrow 1973:72; Lehmann 1952:80f); (2) the Greek prothetic vowels (cf. Beekes 1969:18f; Cowgill 1965:151f; Lejeune 1972:204); (3) the Greek rough breathing, in part (cf. Sturtevant 1942:76f); (4) Armenian initial *h*, in part (cf. Bomhard 1976:§12.11; Greppin this volume); (5) the Balto-Slavic intonations (cf. Vaillant 1950:241f); and (6) the Germanic *Verschärfung* (cf. Lehmann 1952:36f). I believe that it was this single laryngeal of Disintegrating Indo-European that had a syllabic variant.

For pre-Anatolian Indo-European, at least four laryngeals must be reconstructed (cf. Sturtevant 1942:35f). There is no other con-

vincing way to account for (1) Disintegrating Indo-European $*e$ without a corresponding Anatolian laryngeal reflex (this is Kuryłowicz's \mathfrak{z}_1); (2) Disintegrating Indo-European $*a$ with a corresponding Anatolian laryngeal reflex (this is Kuryłowicz's \mathfrak{z}_2); (3) Disintegrating Indo-European $*e$ (Kuryłowicz 1935:28-9 posits $*o$ here) with a corresponding Anatolian laryngeal reflex (this is Kuryłowicz's \mathfrak{z}_3); and (4) Disintegrating Indo-European $*a$ without a corresponding Anatolian laryngeal reflex (this is Kuryłowicz's \mathfrak{z}_4). Note that I disagree with Kuryłowicz on the vowel-coloring effects of his third laryngeal (cf. here Sturtevant 1942:§9b and 1951:§75). It was pre-Anatolian Indo-European that had no initial vowels.

I assume that, after the laryngeals had been lost in various positions in Disintegrating Indo-European, they merged into /h/ wherever they remained (cf. Bomhard 1975:§6.7 and 1976:§12.13). It is on the basis of the Armenian reflex that I assume this single laryngeal to have been a voiceless glottal fricative. Szemerényi (1967:89f) and Vaillant (1950:241f) also agree that the Indo-European antecedent of the non-Anatolian daughter languages had only a single laryngeal and that that laryngeal was a voiceless glottal fricative.

1.11. *Conclusions:*

The Indo-European stop system as traditionally reconstructed must be considered as highly improbable in view of the fact that it is totally without typological parallels. Therefore, in order to satisfy the requirement that the Indo-European stop system conform to some degree of naturalness, it is necessary to substitute an alternate reconstruction for the traditional one. The revisions proposed by Gamkrelidze, Hopper, and Ivanov more than satisfy this requirement.

An analysis of the vowel gradation patterning found in the older Indo-European daughter languages makes it possible to recover traces of four separate periods of development in the Indo-European parent language: (1) the phonemic stress stage, (2) the phonemic pitch stage, (3) "Late Indo-European", and (4) "Disintegrating Indo-European".

Indo-European originally had at least four laryngeals. However, during the course of its development, Indo-European gradually lost most of these laryngeals. In the final period ("Disintegrating Indo-European"), only one laryngeal remained.

On the basis of the preceding discussion, we are now in a position to delineate the Indo-European phonemic inventory. Since we have discussed several periods of development within Indo-European, we could represent the phonemic inventory in any one of a number of different ways, each reflecting a different epoch in the prehistory of the Indo-European parent language. However, since the prehistoric development of the Indo-European phonological system will be discussed in the last part of this paper, we will restrict ourselves here to a single period, namely, "Late Indo-European". The "Late Indo-European" phonological system may be reconstructed as follows (cf. Bomhard 1975:§5.1):

Stops:

Voiceless:	p	t	k	k ^w
Voiced:	b	d	g	g ^w
Glottalized:		t'	k'	k' ^w

Fricatives:

Voiceless:	s
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Resonants:

Nasals:	m/ṃ	n/ṇ		
Rolled:		r/ṛ		
Lateral:		l/ḷ		
Glides:	w/u		y/i	

Vowels:

i	e	a	o	u
ī	ē	ā	ō	ū

Laryngeals:

h ₁	h ₂	h ₃	h ₄
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2. THE RECONSTRUCTION OF THE PROTO-SEMITIC CONSONANT SYSTEM:

2.1. *Introduction:*

Moscatti (1964:§8.3) reconstructs the Proto-Semitic consonant system as follows:

	Plosive	Fricative	Lateral	Lateral- lized ?	Rolled	Nasal
Bilabial	<i>p, b</i>					<i>m</i>
Interdental		<i>t̪, d̪, ť̪</i>		<i>ď̪</i>		
Dental	<i>t, d, t̪</i>	<i>s, z, š</i>	<i>l</i>	<i>š</i>	<i>r</i>	<i>n</i>
Palato-alveolar		<i>ʃ</i>				
Velar	<i>k, q, g</i>	<i>ħ, ǧ</i>				
Pharyngeal		<i>ħ, ʕ</i>				
Laryngeal	<i>ʔ</i>	<i>h</i>				

The consonant system as reconstructed above is found in all of the standard handbooks, including Bergsträsser (1928:3-6), Brockelmann (1908:42-4), Gray (1934:8-10), O'Leary (1923:29-30), and Zimmern (1898:12). Even in works dealing with Afroasiatic, the above system, with but few modifications, has been taken as being identical with the consonant system of the Afroasiatic proto-language (cf. Cohen 1947:68 and 1952:90-1; Diakonoff 1965:18-29; Hodge 1971:12).

In spite of apparent unanimity in the reconstruction of the Proto-Semitic consonant system, voices of protest have been raised from time to time (cf. Cantineau 1952:79-94 and 1960:15-7; Martinet 1975[1953]:248-61). Indeed, the question of whether or not the above system is in fact an accurate representation of the consonant system of Proto-Semitic takes on increasing significance as more data become available from the other branches of Afroasiatic. In this, the second part of this paper, we will reexamine the reconstruction of the Proto-Semitic consonant system, taking into consideration, as much as current knowl-

edge permits, material from the cognate Afroasiatic languages. Each class will be investigated separately.

2.2. *Emphatics:*

In Arabic, the so-called "emphatics" are pharyngealized (cf. Al-Ani 1970:44). However, in the Modern South Arabian languages and in the Semitic languages of Ethiopia, they are glottalized (cf. Johnstone 1975:§2.1.2; Moscati 1964:§8.2). The cumulative evidence leaves little doubt that the emphatics were glottalized (ejectives) in Proto-Semitic. This conclusion is also reached by Cantineau (1952:93), Cohen (1968:1301-3), Martinet (1975[1959]:238 and 1975[1953]:250-2), and Steiner (1977:155).

Pharyngealization is not incompatible with voicing but glottalization is (cf. Greenberg 1970:§2.2). Consequently, Arabic has voiced as well as voiceless emphatics (cf. Moscati 1964:§8.2). In Hebrew and Aramaic, however, the emphatics are never voiced (cf. Cantineau 1952:93; Moscati 1964:§8.2), and the same is most likely true for Akkadian and Ugaritic as well. Therefore, it seems highly probable that the emphatics were glottalized in Hebrew, Aramaic, Akkadian, and Ugaritic rather than pharyngealized as in Arabic.

The emphatics of Arabic influence the quality of contiguous vowels (cf. Al-Ani 1970:23-4). The fact that nothing comparable is found in Akkadian, Hebrew, or Aramaic (cf. Cantineau 1952:93; Martinet 1975[1959]:238; Moscati 1964:§8.2) lends additional support to the argument that the emphatics cannot have been pharyngealized in these languages.

Both Greenberg (1970:127) and Martinet (1975[1953]:251) have pointed out that it is common for languages having ejectives to lack the bilabial member. Now, it is extremely unlikely that Proto-Semitic possessed a bilabial emphatic (cf. Cantineau 1952:80-1; Moscati 1964:§8.7). A gap at this point of articulation is easy to understand if the emphatics had been ejectives in Proto-Semitic.

According to Cohen (1968:1302) and Martinet (1970:113-4), pharyngealized consonants can be derived from earlier ejectives, but the converse is not true. It should be noted, though, that this argument is based more on conjecture than on concrete evidence since pharyngealized consonants are rare typologically, and, therefore, comparative material is lacking.

The evidence from the other branches of Afroasiatic tends to support the contention that the emphatics were ejectives not only in Proto-Semitic but also in Proto-Afroasiatic.

Ancient Egyptian seems not to have had emphatics (cf. Vergote 1971:43). Only the velar emphatic retained autonomy, becoming /q/. The remaining emphatics seem to have merged with the unaspirated (earlier voiced) consonants. The developments probably went as follows: (1) The ejectives other than /k'/ became voiced consonants thus: glottalized → creaky voice → full voice. A similar progression is found in several of the Caucasian languages (cf. Colarusso 1975:82; Gamkrelidze-Ivanov 1973:154) and may also have taken place in the early prehistory of several of the Indo-European daughter languages if Gamkrelidze-Ivanov (1972:15-8 and 1973:150-6) and Hopper (1973: 141-66) are correct in their reinterpretation of the traditional plain voiced stops of Indo-European as ejectives (cf. also Bomhard 1979:§6). Parallels also exist in the Modern South Arabian languages, where "the post-glottalized (ejective) consonants have partially voiced and more rarely wholly voiced variants" (cf. Johnstone 1975:§2.1.2). It is not difficult to understand how /k'/ could have remained since back articulation is the unmarked point of articulation for ejectives (cf. Greenberg 1970:§2.3). (2) Next, the voiceless consonants became voiceless aspirated consonants (cf. Vergote 1971:43)¹¹. (3) Finally, the voiced consonants became unaspirated voiceless consonants (cf. Vergote 1971:

¹¹This step is unnecessary if, as seems likely, this series was originally aspirated in Proto-Afroasiatic and Ancient Egyptian.

43). It was then that /k'/ became /q/. Even though Ancient Egyptian did not possess emphatics, the internal development of this series in Egyptian can be explained by positing earlier ejectives.

In the modern Berber languages, the emphatics are pharyngealized as in Arabic (cf. Cohen 1968:1302). Both voiced and voiceless emphatics exist. It does not seem unreasonable to assume that the pharyngealized emphatics of Berber are due to secondary developments. Martinet (1970:§4.29) has suggested a possible evolution of ejectives to pharyngealized consonants by progressive relaxation of the glottal stricture thus:

$$p' \quad t' \quad k' \quad > \quad b^{\text{D}} \quad d^{\text{D}} \quad g^{\text{D}} \quad > \quad p^{\text{D}} \quad t^{\text{D}} \quad k^{\text{D}}$$

Of the modern Chadic languages, Angas, Dangaleat, Ga'anda, Higi, Margi, Tera, and Sayanci have implosives, while Hausa has implosives in the bilabial and dental series but ejectives in the sibilant and velar series corresponding to the Semitic emphatics (cf. Cohen 1968:1302). Martinet (1970:§4.28) has posited the development of ejectives into implosives by a progressive anticipation of the voice of a following vowel thus:

$$p' \quad t' \quad k' \quad > \quad 'b \quad 'd \quad 'g$$

If we follow Martinet, as I think we must, it is possible to derive the Chadic implosives from earlier ejectives.

The Cushitic and Omotic languages provide the strongest evidence in favor of interpreting the emphatics of both Proto-Semitic and Proto-Afroasiatic as ejectives. The Cushitic languages Awngi and Galab possess neither implosives nor ejectives and can, therefore, be disregarded since they probably do not represent the original state. Of the remaining Cushitic languages, Beja has only the retroflex implosive /'d/; Galla has the retroflex implosive /'d/ plus the ejectives /p', t', tʃ', k'/; Bilin has the ejectives /t', tʃ', k'/; Somali has a retroflex den-

tal /q/ (no doubt from earlier */'q/); and Iraqw has the affricate ejective /t͡s'/ (plus, marginally, /'b/ and /'d/). Of the modern Omotic languages, Kefa has the ejectives /t'/ and /t͡s'/, and Walamo has the ejectives /p', t', t͡s', c', k', s'/. These clearly correspond to the Semitic emphatics (for examples, cf. Cohen 1947).

Typologically, it makes sense to interpret the Proto-Semitic emphatics as ejectives. Pharyngealized consonants have an extremely limited occurrence among the languages of the world; this is not true, however, of ejectives. Ejectives are found in the Caucasian languages, many American Indian languages, and several sub-Saharan African languages. 129 (19%) of the 693 languages included in Ruhlen's (1976) massive survey contain ejectives.

2.3. Bilabials:

Semitic correspondences*:

Akk.	Ug.	Hebr.	Aram.	Ar.	ESA	Eth.
b	b	ב /b/	ב /b/	ب /b/	b	b
p	p	פ /p/	פ /p/	ف /f/	f	f
m	m	מ /m/	מ /m/	م /m/	m	m

*Each language is given in traditional transcription.

There can be no question that Proto-Semitic contained *b, *p, and *m. The f found in Arabic, Epigraphic South Arabian, and Ethiopic is surely an innovation and can easily be derived from earlier *p (cf. Moscati 1964:§8.6). Hebrew and Aramaic b and p have the nonphonemic allophones β and ϕ respectively (cf. Moscati 1964:§8.10).

It should be noted here that the voiceless stops were probably voiceless aspirates, i.e., /p^h, t^h, k^h/, in Proto-Semitic (cf. Cantineau 1952:90-1; Martinet 1975[1953]:250).

The material from the other Afroasiatic languages supports the assumption that Proto-Semitic, as well as Proto-Afroasiatic, had the bilabials **b*, **p*, and **m*. Cf. Cohen 1947 for examples.

Afroasiatic correspondences:

Proto-Semitic	Berber: Shilha	Ancient Egypt.*	Cushitic:		Omotic: Kefa	Chadic: Hausa
			Beja	Somali		
<i>*b</i>	b	b	b	b	b	b
<i>*p</i>	f	p, f	f	f	f, p	Φ, h
<i>*m</i>	m	m, b	m	m	m	m

*Ancient Egyptian is given in traditional transcription. It should be noted, however, that the phonemes traditionally written as *b*, *d*, *ḏ*, *g*, *q* were probably /p, t, tʃ, k, q/ respectively, while the phonemes written as *p*, *t*, *ṭ*, *k* were probably /p^h, t^h, tʃ^h, k^h/ respectively (cf. Callender 1975:§2.1; Vergote 1971:43).

Diakonoff (1965:20) reconstructs an emphatic bilabial, which he writes **ḑ*. However, as he himself admits, the evidence for this sound is extremely weak. At most, such a sound could only have had a very limited occurrence. It is best to agree with Cantineau (1952:80-1) and Moscati (1964:§8.7) that an emphatic bilabial should not be reconstructed for Proto-Semitic. It is unclear whether or not there is enough evidence from all of the branches to warrant positing an emphatic bilabial for Proto-Afroasiatic.

According to Greenberg (1958:295-302 and 1965:88-92), two additional bilabials should be reconstructed for Proto-Afroasiatic: **/f/* and **/ᵐb/*. While he has made a strong case for **/f/* separate from **/p/*, his theories concerning **/ᵐb/* are not convincing and have been successfully argued against by Illič-Svityč (1966:9-34); Illič-Svityč considers **/ᵐb/* to contain a prefix /m-/.

2.4. *Dentals:*

Semitic correspondences:

Akk.	Ug.	Hebr.	Aram.	Ar.	ESA	Eth.
d	d	ד /d/	ד /d/	د /d/	d	d
t	t	ט /t/	ט /t/	ط /t/	t	t
t	t	ת /t/	ת /t/	ت /t/	t	t
n	n	נ /n/	נ /n/	ن /n/	n	n

It is quite evident that Proto-Semitic contained **d*, **t'*, **t*, and **n*. Hebrew and Aramaic *d* and *t* have the nonphonemic allophones *ð* and *θ* respectively (cf. Moscati 1964:§8.10). In Akkadian, Hebrew, and Epigraphic South Arabian, *n* becomes *m* in mimation (cf. Diakonoff 1965:28, note 2, and 1965:61-2; Moscati 1964:96-100).

Afroasiatic correspondences:

Proto-Semitic	Berber: Shilha	Ancient Egyptian	Cushitic:		Omotic: Kefa	Chadic: Hausa
			Beja	Somali		
<i>*d</i>	d	d	d	d	d	d
<i>*t'</i>	d ^ɖ , t ^ɖ	d, t	'd	ḏ	t'	'd, d
<i>*t</i>	t	t	t	t ^h	t	t
<i>*n</i>	n	n	n	n	n	n

The data from the remaining Afroasiatic branches leave no doubt that both Proto-Semitic and Proto-Afroasiatic had **d*, **t'*, **t*, and **n*. Cf. Cohen 1947 for examples.

Secondary palatalization of the dentals before front vowels is a widespread phenomenon, being especially common in the Semitic languages of Ethiopia and Chadic.

2.5. *Velars:*

Semitic correspondences:

Akk.	Ug.	Hebr.	Aram.	Ar.	ESA	Eth.
g	g	ג /g/	ܓ /g/	ج /ǧ/	g	g
q	q	ק /q/	ܩ /q/	ق /q/	q	q
k	k	כ /k/	ܟ /k/	ك /k/	k	k

Proto-Semitic must have had **g*, **k'*, and **k*. Hebrew and Aramaic *g* and *k* have the nonphonemic allophones γ and χ respectively (cf. Moscati 1964:§8.10). PSem. **g* has become ǧ in standard Classical Arabic (cf. Moscati 1964:§8.42) though it is retained unchanged in some dialects (cf. Martinet 1975[1959]:243-5).

Afroasiatic correspondences:

Proto-Semitic	Berber: Shilha	Ancient Egyptian	Cushitic:		Omotic: Kefa	Chadic: Hausa
			Beja	Somali		
*g	g, γ	g, <u>d</u> *	g	g	g	g
*k'	γ, k ^ɸ	q	g	g	q	k'
*k	k	k, <u>t</u> *	k	k ^h	k	k

*In Egyptian, *g* and *k* become d and t respectively before *i* and *u* (cf. Diakonoff 1965:28, note 11).

In addition to the above correspondences, which guarantee that both Proto-Semitic and Proto-Afroasiatic had **g*, **k'*, and **k*, there are other correspondences which hint at the existence of a series of labiovelars in Proto-Afroasiatic (cf. Cohen 1968:1303; Cohen 1947: 129-30).

Both secondary palatalization of the velars as well as a tendency toward fricative pronunciation are widespread developments.

2.6. "Interdentals":

Semitic correspondences:

Akk.	Ug.	Hebr.	Aram.	Ar.	ESA	Eth.
z	<u>d</u>	ז /z/	ד /d/	ذ /d/	<u>d</u>	z
š	<u>t</u>	ש /š/	ט /t/	ظ /z/	<u>z</u>	š
š	<u>t</u>	שׁ /š/	ת /t/	ث /t/	<u>t</u>	s

Moscatti (1964:27-30) reconstructs interdentals (IPA [ð], [θ'], [θ]) for Proto-Semitic on the basis of the Arabic reflexes. Cantineau (1952:81-2) reconstructs *apicales "à pointe basse"*. He notes: *Mais il est difficile de décider s'il s'agissait dès le sémitique de vraies spirantes ou d'affriquées à implosion occlusive et à dénouement spirant.* Finally, Cohen (1968:1304) and Martinet (1975[1953]:257-8) posit palatals, which Martinet writes *d, *t', and *t'. In my opinion, Martinet comes the closest to the truth. I believe that the developments found in the daughter languages can best be explained by reconstructing a series of palato-alveolar affricates for Proto-Semitic: *dž, *tš', *tš', *tš.

The oldest Akkadian may have preserved this series. According to Gelb (1961:35-9), Akk. š₃ corresponds to Hebr. š and Ar. t, while š₄ may correspond to Hebr. z and Ar. d. š₃ and š₄ are distinct from š₁ and š₂, which represent PSem. *š and *š' respectively (cf. Gelb 1961: 35). Cf. here also Diakonoff 1965:21, note 25.

It is difficult to establish clear correspondences between the various branches of Afroasiatic for this series. Sometimes affricates in the other branches seem to correspond to the Semitic *dž, *tš', *tš', while in other cases, either dentals or sibilants are found (cf. Cohen

1947:157-61 for examples; see also Diakonoff 1965:26 and 1974:595-7). Ancient Egyptian has the clearest correspondences: P_{Sem.} *dʒ ~ Eg. d /tʃ/; P_{Sem.} *tʃ ~ Eg. d /tʃ/; P_{Sem.} *tʃ ~ Eg. t /tʃh/.

Palato-alveolar affricates are extremely common in modern Chadic, Cushitic, and Omotic languages. Some of these affricates are clearly due to secondary developments. Such is the case, for example, in several modern Arabic dialects (Iraqi, etc.) and in the modern Semitic languages of Ethiopia. However, enough good correspondences can be established to make it seem probable that a series of palato-alveolar affricates existed as part of the Proto-Afroasiatic phonemic inventory.

2.7. *Sibilants:*

Semitic correspondences:

Akk.	Ug.	Hebr.	Aram.	Ar.	ESA	Eth.
š	š	שׁ /š/	שׁ /š/	س /s/	s ¹	s
z	z	ז /z/	ז /z/	ز /z/	z	z
ṣ	ṣ	צ /ṣ/	צ /ṣ/	ص /ṣ/	ṣ	ṣ
s	s	ס /s/	ס /s/	س /s/	s ³	s

From the preceding table of correspondences, it would appear certain that a series of sibilants should be reconstructed for Proto-Semitic. However, appearances can be misleading. There is some evidence that this series was originally composed of dental affricates (cf. Cohen 1947:141, 143, and 145; Diakonoff 1965:20-1 and 1974:595; Martinet 1975[1953]:253-4): *dʒ, *tʃ, *tʃ. This does not mean that the independent existence of sibilants in the Semitic parent language is to be excluded. On the contrary, in addition to the dental affricates, Proto-Semitic must also have had, at the very least, the sibilants *s and *ʃ.

The primary evidence for earlier dental affricates comes from Hebrew and Akkadian (cf. Diakonoff 1965:20-1). First, the emphatic sibilant, š / ʃ /, is traditionally pronounced as a dental affricate in Hebrew, and, as noted by Cantineau (1952:83), this pronunciation is not a recent or secondary development. Next, it is now known that the Hittite cuneiform syllabary was borrowed at the beginning of the second millennium B. C. directly from that form of Old Akkadian then written in Northern Syria (cf. Gamkrelidze 1968:91-2) and not from Hurrian as previously thought (cf. Sturtevant 1951:§5). The Hittite syllabary contains signs that are transliterated with a z but which, in fact, represent the dental affricate / tʃ / (cf. Sturtevant 1951:§25). This seems to indicate that the z of Old Akkadian was pronounced as an affricate (cf. Martinet 1975[1953]:254). Also worth noting is the fact that Hittite employed the cuneiform signs containing š to represent / s / (cf. Sturtevant 1951:§50). Since the Akkadian cuneiform syllabary contained signs traditionally transliterated with s in addition to those transliterated with š , we must conclude that the Hittites chose the latter signs because they were closer to their sibilant than the former. We may venture a guess that the Hittites chose the š -signs because the s -signs represented affricates in Akkadian at the time that they adopted the cuneiform writing system. This conclusion is supported by the Hurrian evidence, where the cuneiform signs with z and s are used to denote affricates (cf. Diakonoff 1965:21).

Additional evidence for affricate pronunciation comes from Egyptian material dating from the second millennium B. C. In transcribing Semitic words and names, Egyptian fairly consistently uses t for s in the Semitic words and d for z and š in the Semitic words (for examples, cf. Albright 1934:33-67).

Finally, Cantineau (1952:83) and Cohen (1947:145) briefly mention the fact that š is mostly pronounced as either an affricate or as a dental stop in the Semitic languages of Ethiopia.

In the other branches of Afroasiatic, affricates, dentals, and sibilants correspond to the Semitic *dʒ , *tʃ , and *tʃ (cf. Cohen

1947:141-7; Diakonoff 1965:26). In my opinion, the developments in all branches of Afroasiatic can best be explained by reconstructing a series of dental affricates for Proto-Afroasiatic. This is also the opinion of Cohen (1968:1304).

2.8. *Fricative Laterals:*

Semitic correspondences:

Akk.	Ug.	Hebr.	Aram.	Ar.	ESA	Eth.
ṣ	ṣ	צ /ṣ/	ܥ /ʿ/	ض /ḍ/	ḍ	ḍ
ṣ̣	ṣ̣	צ̣ /ṣ̣/	ܥ̣ /s/	ش /š/	s ²	ṣ̣

The Modern South Arabian languages contain the fricative laterals /ɬ/ and /ɬ̣/ (cf. Johnstone 1975:§2.1.3; Steiner 1977:20). The voiceless fricative lateral /ɬ/ corresponds to sibilants in the other Semitic languages. In Hebrew, however, a special character, adapted from šin and transliterated as ṣ̣, appears in words whose cognates in the South Arabian languages contain fricative laterals (cf. Moscati 1964: §8.29). The evidence of Hebrew, coupled with that of South Arabian, makes it seem likely that Proto-Semitic contained the voiceless fricative lateral /ɬ/. Cantineau (1952:84-7) and Steiner (1977:155-6) concur with this reconstruction. Martinet (1975[1953]:253), however, would rather posit an affricate *tʃʰ. As noted by Steiner (1977:155-6), Martinet's reconstruction cannot be excluded.

The original pronunciation of the Arabic sound transliterated as ḍ (ض) can be determined by the testimony of the native grammarians (cf. Steiner 1977:57-67) and from the evidence of loanwords in other languages (cf. Steiner 1977:68-91). In all probability, this sound was originally a voiced emphatic fricative lateral (cf. Steiner 1977:64-5). This sound can be derived from either an earlier glottalized fricative lateral /ɬʰ/ (cf. Steiner 1977:155-6) or an earlier glottalized affri-

cate /tʰ/ (cf. Cohen 1968:1304-5; Martinet 1975[1953]:253). Either reconstruction can also account for the developments found in the other Semitic daughter languages.

According to Cohen (1947:137), a voiceless fricative lateral /ɬ/ should probably be reconstructed for Proto-Afroasiatic. The same also applies to the glottalized fricative lateral /ɬʰ/ though convincing cognates are difficult to come by. It should be noted that fricative laterals are quite common in Chadic and are not unknown in Cushitic (Iraqw).

2.9. Liquids and Semivowels:

Semitic correspondences:

Akk.	Ug.	Hebr.	Aram.	Ar.	ESA	Eth.
r	r	ר /r/	ר /r/	ر /r/	r	r
l	l	ל /l/	ל /l/	ل /l/	l	l
ø	w, y	ו /w/, י /y/	ו /w/, י /y/	و /w/	w, y	w
γ, ø	γ	י /y/	י /y/	ي /y/	y	y

There can scarcely be any doubt that Proto-Semitic had *r, *l, *w, and *y. These sounds must also have existed in the Afroasiatic parent speech (cf. Cohen 1947 for examples).

Afroasiatic correspondences:

Proto-Semitic	Berber: Shilha	Ancient Egyptian	Cushitic:		Omotic: Kefa	Chadic: Hausa
			Beja	Somali		
*r	r, l	r, ʔ	r, n, l	r, n, l	r, l	r
*l	l, r, n	n, r, ʔ	l, n, r	l, n, r	l, r	l
*w	u, w	w	w, y	w, y	w	w
*y	i, y	i, y	y	y	y	y

2.10. *Glottal Stop and Glottal, Velar, and Pharyngeal Fricatives:*

Semitic correspondences:

Akk.	Ug.	Hebr.	Aram.	Ar.	ESA	Eth.
ʾ, Ø	ḡ	ʔ / ʕ/	ʔ / ʕ/	ḡ / ḡ/	ḡ	ʕ
ḥ	ḥ	ḥ / ḥ/	ḥ / ḥ/	ḥ / ḥ/	ḥ	ḥ
ʾ, Ø	ʕ	ʔ / ʕ/	ʔ / ʕ/	ʕ / ʕ/	ʕ	ʕ
ʾ, Ø	ḥ	ḥ / ḥ/	ḥ / ḥ/	ḥ / ḥ/	ḥ	ḥ
ʾ, Ø	ʔ	ʔ / ʕ/	ʔ / ʕ/	ʕ / ʕ/	ʕ	ʕ
ʾ, Ø	h	ḥ / ḥ/	ḥ / ḥ/	ḥ / ḥ/	h	h

Even though Proto-Semitic had /ɣ, x, ʕ, ḥ, ʔ, h/, it is doubtful whether Proto-Afroasiatic had /ɣ/ and /x/. In Semitic, these sounds were derived from earlier /ʕ/ and /ḥ/ respectively (cf. Cohen 1968: 1306).

2.11. *Conclusions:*

It is clear from the preceding discussion that the consonant system traditionally reconstructed for Proto-Semitic is not, in fact, an accurate representation of what actually existed. Some classes, such as the bilabials, dentals, and velars, hardly required any discussion since the reflexes found in the daughter languages leave little doubt as to what existed in the Semitic parent language; here, the traditional reconstructions are surely correct. This is not true, however, of the emphatics, interdental, or sibilants; here, a brief reexamination of the evidence showed that the traditional reconstructions are probably wrong. It was argued that the emphatics were originally ejectives, while the interdental were reinterpreted as palato-alveolar affricates, and the sibilants were partially reinterpreted as dental affricates. These revisions are not only able to account for the developments in the daughter languages far better than the tradi-

tional reconstructions but are also more in agreement with the data from the cognate Afroasiatic languages.

Revised Proto-Semitic consonant system:

Stops and Affricates:

Voiceless:	p	t	<u>ts</u>	<u>tʃ</u>	k	
Voiced:	b	d	<u>dz</u>	<u>dʒ</u>	g	
Glottalized:		tʼ	<u>tsʼ</u>	<u>tʃʼ</u>	kʼ	ʔ

Fricatives:

Voiceless:		s	ʃ	ʈ	x	ħ	h
Voiced:					ɣ	ʕ	
Glottalized:				ʈʼ			

Nasals:	m	n	
Rolled:		r	
Lateral:		l	
Glides:	w		y

3. COMPARISON OF INDO-EUROPEAN AND AFROASIATIC:

3.1. *Introduction:*

There have been numerous attempts to connect Indo-European with Afroasiatic in some sort of genetic relationship; the efforts of Albert Cuny, Hermann Möller, and, most recently, Linus Brunner deserve mention in particular. Even though some striking similarities have been revealed, however, the previously attempted comparisons have by and large been unconvincing for several reasons. In the first place, the phonological system traditionally reconstructed for Proto-Indo-European differs drastically from that traditionally reconstructed for Proto-Afroasiatic. This has made it difficult to establish convincing sound correspondences

with the result that many lexical look-alikes have been taken to be cognates when they are not, while true cognates have gone undetected. Now that the reconstructed Indo-European stop system has been thoroughly revised by Gamkrelidze, Hopper, and Ivanov, the differences between the Indo-European and Afroasiatic phonological systems have been considerably reduced, and it is possible, at long last, to make a meaningful comparison between these two hypothetical proto-languages. Next, there appear to be relatively few similarities in the morphology of Proto-Indo-European and Proto-Afroasiatic. In my opinion, we should not expect to find many similarities in the morphology of these two proto-languages. As I see the situation, Proto-Afroasiatic and pre-Indo-European parted many millennia before the stage of development that can be reached by a direct comparison of the extant daughter languages. It was during this span of time between the separation of Proto-Afroasiatic and pre-Indo-European and the emergence of the historically-attested daughter languages that each proto-language developed its own, distinctive morphological system. Under these circumstances, I do not think that we will be able to recover the morphological system of the ancestor of these two proto-languages in great detail. The most that we can hope for is the recovery of broad similarities. Morphological issues are generally not discussed in the present paper (but cf. §3.51).

3.2. Comparison of Indo-European and Semitic Phonological Systems:

In the first two parts of this paper, we established the fact that the consonant systems of both Proto-Indo-European and Proto-Semitic belonged to the same linguistic type, each having a three-way contrast of voiced ~ voiceless (aspirated) ~ glottalized consonants. Similarly constituted phonological systems are rather widespread among the languages of the world, being found, for example, in the Caucasian languages, many American Indian languages, and several sub-Saharan African languages (for details, cf. the phonological systems given in Ruhlen 1976).

3.3. *Proto-Semitic/Indo-European Correspondences:*

New PSem.	Trad. PSem.	New IE	Traditional Indo-European	New PSem.	Trad. PSem.	New IE	Traditional Indo-European
b	b	b	bh	g	g	g	ǵh; gh
p	p	p	p, ph	k	k	k	ḱ, ḱh; q, qh
				k'	ḱ	k'	ǵ; g
d	d	d	dh				
t	t	t	t, th	g	g	g ^w	g ^w h
t'	ṭ	t'	d	k	k	k ^w	q ^w , q ^w h
				k'	ḱ	k' ^w	g ^w
dž	ḏ	d	dh	γ	ḡ	ḡh	ǵ ²
tš	ṭ	t	t, th	x	ḥ	ḥh	ǵ ²
tš'	ṭ	t'	d	ʕ	‘	ʕh	ǵ ²
				ḥ	ḥ	ḥh	ǵ ²
dz	z	d	dh	ʕ	‘	ʕ	ǵ ³
ts	s	t	t, th	ḥ	ḥ	x	ǵ ³
ts'	ṣ	t'	d	ʔ	’	ʔ	ǵ ¹
				h	h	h	ǵ ⁴
dz	z	g	ǵh; gh	γ	γ	γ	γ
ts	s	k	ḱ, ḱh; q, qh	w	w	w	w
ts'	ṣ	k'	ǵ; g	m	m	m	m
				n	n	n	n
s	s	s	s	l	l	l	l
š	š	s	s	r	r	r	r
ḱ	ḱ	k	ḱ, ḱh; q, qh				
ḱ'	ḱ	k'	ǵ; g				

3.4. *Bilabials:*

The Proto-Semitic voiced and voiceless (aspirated) bilabial stops have exact counterparts in the Indo-European voiced (aspirated) and

voiceless (aspirated) bilabials. Note that the lack of an emphatic (i.e., glottalized) bilabial stop in Proto-Semitic is matched by the corresponding lack of a glottalized bilabial stop in Indo-European. The missing member is the traditional plain voiced bilabial (*b) reconstructed analogically for Indo-European. As pointed out by Greenberg (1970:127), it is common for languages having ejectives to have a gap in the bilabial series.

3.5. *Dentals, Velars, Glides, Nasals, and Liquids:*

The dental and velar stops, as well as the glides, nasals, and liquids, correspond member for member and require no further comment.

3.6. *Palato-Alveolar Affricates:*

The palato-alveolar affricates (the traditional interdentals) of Proto-Semitic correspond to dental stops in Indo-European. Ancient Egyptian also has palato-alveolar affricates here, and all indications are that this was the original realization of this series in Proto-Afroasiatic (for discussion and references, cf. §2.6). Two explanations are possible to account for this correspondence: (1) Indo-European retained the original value, and the palato-alveolar affricates of Afroasiatic were secondarily derived from earlier dental stops through palatalization, or (2) Afroasiatic had the original value, and the Indo-European developments are secondary. Typological considerations favor the second alternative¹². In general, a contrast between velars and labialized velars, such as posited for Indo-European by Lehmann (1952:§2.1b and §13.3) and Meillet (1964:91-5), for example, implies a frontal contrast of some kind. One very common realization

¹²We cannot, however, exclude the possibility that some cases of palato-alveolar affricates in Proto-Semitic were secondarily derived through palatalization of earlier dentals.

of the frontal contrast is as some sort of affricate (cf. Ruhlen 1976 for examples). Therefore, I tentatively assume that pre-Indo-European possessed a series of palato-alveolar affricates corresponding to those of Proto-Semitic and that this series was later eliminated through occlusivization and merger with the dental stops (as has happened, for example, in the case of Aramaic [cf. §2.6]).

3.7. *Dental Affricates:*

The Proto-Semitic dental affricates correspond both to the dental stops and to the velar stops of Indo-European. According to Vergote (1971:44), some of the Common Semitic velars have undergone a palatalization to dental affricates. Early Egyptian has also participated in the palatalization of velars (cf. Vergote 1971:44). Palatalization of velars is a widespread phenomenon, and numerous typological parallels exist: from Indo-European, one can cite the Romance and Slavic developments as examples. In Proto-Semitic, the newly-formed dental affricates merged with previously existing dental affricates. In Egyptian, however, the developments were slightly different. The original dental affricates of Proto-Semitic have the following correspondences in Egyptian:

Proto-Semitic		Egyptian
<u>dz</u>	=	<u>z</u>
<u>ts</u>	=	<u>t</u>
<u>ts'</u>	=	<u>d</u>

However, when the Proto-Semitic dental affricates are derived from earlier velars, the Egyptian correspondences are as follows:

Afroasiatic		Proto-Semitic	Egyptian
<u>g</u>	>	<u>dz</u>	<u>d</u>
<u>k</u>	>	<u>ts</u>	<u>t</u>
<u>k'</u>	>	<u>ts'</u>	<u>d</u>

That the Cushitic languages did not participate in this palatalization is shown by the fact that Beja *g* corresponds to Eg. *d* and PS *ts*' (traditional *s*), all three being from original **k*' (cf. Vergote 1971:44). The dual origin of the Proto-Semitic dental affricates explains why this series corresponds both to dental stops and to velar stops in Indo-European. Where the Proto-Semitic dental affricates correspond to velar stops in Indo-European, as Beja, may be presumed to have preserved the original value. Where the Proto-Semitic dental affricates correspond to dental stops in Indo-European, two explanations are possible: (1) the original value was preserved in Indo-European, and the Semitic developments were due to the palatalization of earlier dental stops, or (2) Proto-Semitic preserved the original value, and Indo-European somehow eliminated the dental affricates that must have existed in pre-Indo-European. The second alternative is the most probable. The following developments may be posited: The earliest form of pre-Indo-European had both dental affricates and palato-alveolar affricates as well as dental stops. The first change to take place was the merger of the dental affricates with the palato-alveolar affricates. At a later date, the palato-alveolar affricates underwent occlusivization and merged with the dental stops. All of this is, of course, highly speculative and, while extremely attractive and quite plausible, difficult to prove with the available evidence. Nonetheless, since I can find no more reasonable explanation, this is the one adopted here.

3.8. *Sibilants:*

Both the voiceless palato-alveolar sibilant and the voiceless dental sibilant of Proto-Semitic correspond to the voiceless dental sibilant of Indo-European. It is probable that pre-Indo-European originally distinguished these two sounds.

3.9. *Fricative Laterals:*

The fricative laterals of Proto-Semitic correspond to velar stops in Indo-European. It is not impossible that the earliest form of pre-Indo-European also had either fricative laterals or, more likely, lateralized affricates (as posited for Proto-Semitic by Cohen 1968:1304-5 and Martinet 1975[1953]:248-61). Steiner (1977:40), quoting Trubetzkoy, mentions that the development of lateralized affricates into palatal, velar, or uvular stops (or affricates) is a common development in the Northeast Caucasian languages; thus:

*t̪	>	*k̪	>	*kx	>	k
voiceless		voiceless		voiceless		voiceless
alveolar		velar		velar		velar
lateralized		lateralized		affricate		stop
affricate		affricate				

A similar shift may be posited for pre-Indo-European.

3.10. *Labialized Velars:*

The labialized velar stops of Indo-European correspond to plain velar stops in Proto-Semitic. There is some evidence that the Afroasiatic parent language may also have had labialized velars (cf. Cohen 1968:1303; Cohen 1947:129-30). If this were indeed the case, as seems entirely probable, the labialized velars would then have been lost in Proto-Semitic through delabialization and merger with the plain velars. A typological parallel exists with the Indo-European antecedent of the satem languages, where earlier labialized velars had been delabialized and had merged with plain velars (cf. §1.5; Meillet 1964:91-5).

3.11. *Uvulars:*

Diakonoff (1974:595) seems to be suggesting the existence of a series of uvular or postvelar stops in the Afroasiatic parent language when he says that "...all postvelar stops were lost" in the Semitic

branch and that in Egyptian "...the original lateral sounds were lost as well as the *postvelar stops* and labialized velars..." (the italics are mine). Uvulars have also been posited for Indo-European by several scholars, the most recent being Rudolf Normier (1977:174-5). In my opinion, these theories have a great deal of merit. However, since I do not at present believe that there were more than two guttural series -- velars and labialized velars -- at the time that Indo-European began to split up into the non-Anatolian dialect groups, the uvulars, if they ever existed, must have been lost at some time prior to the latest period of development, "Disintegrating Indo-European". I would very cautiously set up a series of plain and perhaps even labialized uvular stops for pre-Indo-European and possibly "Stress Indo-European" but not for subsequent periods.

3.12. *Laryngeals:*

The correspondences between Indo-European and Afroasiatic point to a complicated history for this series. While most of the developments can be accounted for, there remain several annoying problems. The following correspondences exist:

Indo-European	Proto-Semitic	Egyptian
ǵ ₁	ʔ	ʕ, ʔ
ǵ ₄	h	h
ǵ ₂	ħ, ʕ, x, ɣ	ħ, ħ, ḥ, ʕ
ǵ ₃	ħ, ʕ	ħ, ʕ

We may assume that Proto-Afroasiatic had only the following four laryngeals: /ʔ, h, ħ, ʕ/. I agree with Cohen (1968:1306) that Proto-Semitic /x/ and /ɣ/ are to be derived from earlier /ħ/ and /ʕ/ respectively. Colarusso (this volume) cites examples from the Northwest Caucasian languages in which pharyngeal fricatives have developed into velar fricatives thus: /ħ/ > /x^D/ (voiceless pharyngealized velar fric-

ative) > /x/ and /ʕ/ > /ɣ^D/ > /ɣ/. A similar progression may be posited for pre-Proto-Semitic. Likewise, pre-Egyptian had only /h/ and /ʕ/. /h/ early split into *h* and *ḥ*, and these two were later palatalized to *ḥ* in certain environments (cf. Diakonoff 1965:23, fn. 32).

The Indo-European developments can also be accounted for by setting up four laryngeals for pre-Indo-European¹³: /ʔ, h, ḥ, ʕ/. The earliest change that took place must have been a split of /h/ into /h/ and /x/ and of /ʕ/ into /ʕ/ and /ɣ/¹⁴. As in Semitic, the velar fricatives were considerably less frequent in occurrence than the pharyngeal fricatives. The development of velar fricatives may, for the sake of argument, be assigned to the Stress Indo-European period. What is certain here is that it would have had to have taken place prior to the Pitch Indo-European period. Thus, the following laryngeals existed at the end of the Stress Indo-European period: /ʔ, h, ḥ, ʕ, x, ɣ/.

In the Pitch Indo-European stage of development, qualitative vowel gradation came into being when the vowels *a* and *ā* developed pitch-conditioned front and back allophones. As noted in §1.6, the laryngeals *ḡ₄* and *ḡ₂* prevented the fronting of a contiguous *a* with high pitch. If we take *ḡ₄* to have been the voiceless glottal fricative /h/, we can easily explain the Indo-European developments since typological parallels exist with the Northwest Caucasian languages where /h/ (and /hʷ/)

¹³The question of whether or not labialized laryngeals should be reconstructed for Indo-European will not be discussed here even though there is at least circumstantial evidence that one or more labialized laryngeals may have existed in the Indo-European parent language. Furthermore, there is even some evidence that Indo-European may also have had labialized dentals and sibilants.

¹⁴At the same time, some pharyngeals may have developed pharyngealized uvular allophones. Colarusso (this volume) mentions that such a development has occurred in several of the Northwest Caucasian languages. These pharyngealized uvulars eventually became plain uvulars, and, much later, the uvulars themselves were lost through merger with the plain velars. Some such development would help to explain the existence of forms such as Lat. *costa* "rib" and OCS. *kostъ* "bone" beside Hitt. *ḫa-aš-ta-i* "bone", etc. (cf. Pokorny 1959:616 and 783).

lowers contiguous vowels and also causes compensatory vowel lengthening when lost (cf. Colarusso 1975:396). Therefore, typological evidence as well as the comparison with Afroasiatic confirm that the chief allophone of \mathfrak{z}_4 was the voiceless glottal fricative /h/. Hopper (1977a:49-50) and Lehmann (1952:108) arrive at essentially the same conclusion and so, it would seem, does Sturtevant (1951:§76).

The value of \mathfrak{z}_2 can also be determined with the aid of typological evidence. We know that \mathfrak{z}_2 corresponds to both the voiceless and voiced pharyngeal fricatives of Proto-Afroasiatic. Therefore, we can say with some confidence that the earliest forms of \mathfrak{z}_2 must have been the voiceless and voiced pharyngeal fricatives /ħ/ and /ʕ/ respectively. However, as made clear by Colarusso (this volume), pharyngeals, being [-low], do not lower contiguous vowels. Therefore, I follow Colarusso in assuming that the earlier pharyngeal fricatives /ħ/ and /ʕ/ developed into the multiply articulated pharyngeal/laryngeal fricatives /ħħ/ and /ʕʕ/ respectively in Pitch Indo-European¹⁵. Colarusso cites a parallel development in the Ashkharwa dialect of Abkhaz. These pharyngeal/laryngeals, being [+low], prevented the fronting of *á* to *e* at the time of the changes that brought about the (morpho)phonemicization of qualitative ablaut. Reflexes of these pharyngeal/laryngeal fricatives survived in Hittite and the other older Indo-European languages of ancient Anatolia where they are written *ḫ*(*ḫ*).

It is more difficult to determine the value(s) of \mathfrak{z}_3 than of any of the other laryngeals. That at least two sounds underlie \mathfrak{z}_3 is clear from the Afroasiatic correspondences. It was to account for \mathfrak{z}_3 that I posited the development of the velar fricatives /x/ and /ɣ/ in the Stress Indo-European period. I chose velar fricatives because these sounds do not color contiguous vowels (cf. Colarusso this volume)¹⁶,

¹⁵These developments occurred at a later time than and were totally distinct from the changes that caused the phonemicization of the voiceless and voiced velar fricatives.

¹⁶I follow Sturtevant (1942:§9b and 1951:§75) in assuming that \mathfrak{z}_3 , like \mathfrak{z}_1 , did not color contiguous vowels.

because these are precisely the types of sounds that we would expect, and because these sounds can be derived from earlier pharyngeal fricatives. Reflexes of these velar fricatives also survived in Hittite, Cuneiform and Hieroglyphic Luwian, and Palaic.

The Semitic correspondences prove that Couvreur (1937:264) and Sturtevant (1942:§6c) were correct in their interpretation of ḡ_1 as a glottal stop. Additional confirmation is provided by Skt. *pībati* "drinks", Lat. *bibit*, and OIr. *ibid*. The Indo-European antecedent would have been **pi-pḡ₁-eti* **/pipʔeti/*. According to Gamkrelidze-Hopper-Ivanov, glottalized stops become voiced stops in Sanskrit, Latin, and Old Irish. Therefore, we would expect */pʔ/* to become *b* in these languages, and this is exactly what we do in fact find.

We may set up the following matrix:

	ʔ	h	<u>ḡḡ</u>	<u>ḡḥ</u>	x	ɣ
e-coloring	+	-	-	-	+	+
a-coloring	-	+	+	+	-	-
preserved in Anatolian	-	-	+	+	+	+

In Late Indo-European, */ʔ, h, x, ɣ/* were lost initially before vowels, while */ḡḡ/* > */h/* and */ḡḥ/* > */ḥ/* > */h/* in the same environment. In Disintegrating Indo-European, all laryngeals first merged into */h/*. */h/* (from earlier */ḡḡ/* and */ḡḥ/*) was then lost initially before vowels (except in pre-Proto-Armenian) and medially between an immediately preceding vowel and an immediately following nonsyllabic. This latter change caused the compensatory lengthening of preceding short vowels:

<i>iHC</i>	>	<i>īC</i>
<i>eHC</i>	>	<i>ēC</i>
<i>aHC</i>	>	<i>āC</i>
<i>oHC</i>	>	<i>ōC</i>
<i>uHC</i>	>	<i>ūC</i>

Finally, I assume that the single remaining laryngeal, *h*, was preserved in all other positions and that it had a syllabic allophone when between two nonsyllabics.

3.13. *Examples:*

Even though this paper is entitled "Indo-European and Afroasiatic", the overwhelming majority of the following examples are from Semitic. The Semitic languages, of course, form only one branch of the Afroasiatic language family, the other branches being Ancient Egyptian, Berber, Chadic, Cushitic, and Omotic. However, the comparison of Indo-European directly with Semitic is the only one that can reasonably be made at the present time due to the fact, noted by Hodge (1971:10), that the other branches of Afroasiatic have not yet been sufficiently studied to permit the full reconstruction of the Afroasiatic parent language. No doubt, the collection and analysis of more data from the remaining branches of Afroasiatic will necessitate a reassessment of many of the conclusions reached in this paper.

3.14. *PS b = IE b:*

- | | |
|--|--|
| <p>A. PS <i>*b-</i> "in, at, on, with"</p> <p>Hebr. <i>bə-</i> "in, at, on, with"</p> <p>Ar. <i>bī</i> "in, within, among"</p> <p>Ug. <i>b-</i> "in, within, among"</p> <p>ESA <i>b</i> "from, of"</p> <p>Eth. <i>ba</i> "in, at"</p> | <p>IE <i>*bi</i> (<i>*bhi</i>) "from, with, by, at"</p> <p>Goth. <i>bī</i> "by"</p> <p>Gk. suffix <i>-φυ</i>; <i>ἀμφύ</i> "on both sides, around"</p> |
| <p>B. PS <i>*bdk'</i> "to penetrate, split"</p> <p>Hebr. <i>beḏeq</i> "breach, fissure"</p> <p>Aram. <i>beḏāq</i> "to penetrate, split"</p> <p>Ug. <i>bdqt</i> "openings, sluices"</p> <p>Akk. <i>badāqu</i> "to cleave, split"</p> <p>Eth. <i>bedeq</i> "fissure"</p> | <p>IE <i>*bed-</i> (<i>*bhedh-</i>) "to prick, dig, pierce"</p> <p>Hitt. <i>pīd-da-i</i>, <i>pād-da-i</i> "to dig"</p> <p>Lat. <i>fodiō</i> "to dig"</p> <p>Lith. <i>bedū</i> "to dig, bury"</p> <p>Welsh <i>bedd</i> "grave"</p> <p>Gaul. <i>bedo-</i> "canal, ditch"</p> <p>OCS. <i>bodq</i> "to stick, prick"</p> |

- C. PS **bhl* "to say, speak" IE **bah-* (**bhā-*) "to say, speak"
- Ar. *bahala* "to curse"
 Akk. *bālu* "to implore"
 Eth. *bēhla* "to say, speak"
 Har. *bāya* "to say, name"
 Mh. *bēhlât* "thing"
- Gk. (Dor.) *φαῦλ* "to declare, make known"
 Lat. *fārī* "to say, speak"
 OE. *bōian* "to boast"
 Russ. Ch. Sl. *bajati* "to tell, heal"
- D. PS **bhr* "to shine" IE **bah-* (**bhā-*) "to shine"
- Hebr. *bāhār* "bright, brilliant, clear"
 Ar. *bahara* "to glitter, shine"
 Aram. *bəhar* "to shine"
- Skt. *bhāti* "to shine"
 Gk. *φάω* "to give light, shine";
φᾶνός "light, bright, joyous";
φαίνω "to bring to light, make clear; to show, appear";
φάος, *φῶς* "light"
 OIr. *bán* "white"
 OE. *bōnian* "to polish"
- PS **bhw* "to be beautiful, shining, brilliant"
- Ar. *bahā* "to be beautiful";
bahīy "beautiful, splendid, brilliant, radiant, shining"
- OIr. *bán* "white"
- PS **bhg* "to be glad, happy"
- Ar. *bahīḡa* "to be glad, happy";
bahuḡa "to be beautiful";
bahḡa "splendor, beauty, magnificence"
- PS **bhk'* "to shine, be white"
- Hebr. *bōhaq* "a harmless eruption on the skin, vitiligo"
 Aram. *bəhaq* "to shine"
 Ar. *bahaq* "herpetic eruption, a mild form of leprosy"
- E. PS **br?* "to bear, bring forth, create" IE **ber-* (**bher-*) "to bear, carry, bring forth"
- Hebr. *bārā'* "to shape, create"
 Aram. *bērā'* "to create"; *bar* "son"
 Ar. *bara'a* "to create"
 Soq. *bere* "to bring forth";
bar "child"
- Skt. *bhāratī* "to bear, support"
 Arm. *berem* "to bear"
 Gk. *φέρω* "to bear, carry, bring forth"
 Alb. *bir* "son"; *burrë* "man"
 Lat. *ferō* "to bear, carry, bring forth"
 Goth. *baيران* "to bear, carry, bring forth"
- Eg. *bry* "young"

- bring forth"; *barn* "child";
baur "son, child"
 Lith. *bėrmas* "son"
 OIr. *biru* "to carry"
- F. PS **bk'ʕ* "to cleave"
 IE **bek'-* (**bheg-*, **bheng-*) "to break"
 Hebr. *bāqa'* "to cleave, break open or through"
 Skt. *bhanākti* "to break, shatter"
 Aram. *bəqa'* "to cleave"
 Arm. *bekanem* "to break"
 Ug. *bq'* "to cleave"
 OIr. *bongid* "to break, reap"
- PS **bk'r* "to split open"
 IE **bak'-* (**bhag-*) "to divide, distribute"
 Ar. *baqara* "to split open, rip open, cut open"
 Skt. *bhājati* "to divide, distribute, receive, enjoy"
 Hebr. *bāqar* "to inquire, seek"
 Gk. *φαγεῖν* "to eat, devour"
 Toch. A *pāk*, B *pāke* "part, portion"
- G. PS **bnt'* "to bind"
 IE **bend-* (**bhendh-*) "to bind"
 Hebr. *'aḇnēṭ* "girdle"
 Skt. *badhnāti* "to bind"; *bandhā-s* "bond"
 Eg. *bnd* "to tie, bind"
 Goth. *bindan* "to bind"
- H. PS **br-* "grain"
 IE **bares-* (**bhares-*) "grain"
 Hebr. *bar* "grain, corn"
 Lat. *far* "spelt, grain"
 Ar. *burr* "wheat"
 OIce. *barr* "barley"
 OE. *bere* "barley"
 Eg. *bḫ.t* "a kind of grain"
 OCS. *brašbno* "food"
 Som. *bur* "wheat"
- I. PS **brm* "to twist, turn, weave"
 IE **ber-* (**bher-*) "to plait, braid, twist, weave"
 Hebr. *berōmīm* "variegated cloth"
 Gk. *φάρος* "a large piece of cloth, web; cloak; mantle"; *φορηός* "a seaman's cloak; mat"
 Akk. *birmu* "a kind of clothing"
 Ar. *barama* "to twist, twine";
barīm "rope, string, cord,
 twine"
 Lith. *būrva* "a piece of clothing";
būrė "sail"
- J. PS **bst'* "to spread out"
 IE **bes-* (**bhes-*) "to scatter, spread, strew; expand, puff up, blow"
 Ar. *basata* "to spread, spread out, enlarge, expand"
 Skt. *bhāsman-* "ashes"; *bhāstrā* "leather bottle, skin, bag"
 Eg. *bs*, *bsy* "to grow up, swell";
bsyt "boil"; *bss* "pus"
 Gk. *ψύχω* "to breathe, blow"

- K. PS **bw?* "to come, enter, go in" IE **beu-* (**bheu-*, **bhewə-*) "to become, be, exist, live, stay, abide"
- Hebr. *bō* "to come in, come, go in, enter"
- Ar. *bā'a* "to come back, return, reside, live, settle down"; *mabā'a* "abode, dwelling"
- Oakk. *buā'um* "to come"
- Ug. *bā* "to come"
- Har. *bō'a* "to enter, go in"
- Eg. *bw* "place, position"
- Beja *bi'* "to return home, rest"
- L. PS **bll* "to overflow, pour over" IE **bel-* (**bhel-*) "to swell, puff up, inflate, expand, bubble up, overflow"
- Hebr. *bālāl* "to mingle, mix, confuse, anoint"
- Phoen. *bll* "a type of offering"
- Ar. *balla* "to moisten, wet, make wet"; *billa*, *balāl* "moisture, humidity"
- Oakk. *balālum* "to pour out"
- Tigre *balal* "to be full, overflow, flow"
- PS **bl-bl-* "to confuse"
- Ar. *balbala* "to disquiet, make uneasy, confuse"; *balbāl* "anxiety, uneasiness, concern"
- PS **bly* "to reach, arrive, ripen" Gk. *φύλλον* "leaf"
- Lat. *folium* "leaf"
- Toch. A *pält*, B *pilta* "leaf"
- Ar. *balāga* "to reach, arrive, come, attain puberty, ripen, mature"
- Goth. *blōma* "flower"
- OE. *blōwan* "to bloom, flower"
- Hebr. *belā'* "slander, calumny" IE **belg-* (**bhelǵh-*) "to swell"
- Ir. *bolg* "belly, bag"
- Goth. *balgs* "skin"
- OE. *bielg*, *bylig* "leather bag"
- IE **bleE-* (**bhlē-*) "to blow"
- Lat. *flō* "to blow"
- OE. *blāwan* "to blow"; *blæd* "blowing, breath"
- OHG. *blāsen* "to blow"
- IE **bleE-*, **bloE-* (**bhlē-*, **bhlō-*, **bhle-*) "to blow, blossom, sprout"
- IE **blet'-* (**bhlēd-*) "to boil over"
- Gk. *φλέδων* "a babbler"
- Lett. *blādu* "to babble"

IE **blek*^w- (**bhleg*^w-) "to puff up, swell, inflate, expand"

Gk. φλέψ "vein"

OHG. *bolca*, *bulchunna* "a round swelling"

IE **blei*- (**bhlei*-) "to swell, expand, overflow"

OE. *blegen* "boil, ulcer, blister"

OIce. *blīstra* "to whistle"

Gk. φλιδάω "to overflow with moisture, be ready to burst"

IE **bleu*- (**bhleu*-) "to overflow, pour over, flow"

Gk. φλέω "to abound, teem with abundance"; φλύω, φλύζω "to boil over, bubble up"; φλυδάω "to become soft or flabby"; φλύκταινα "blister"; φλυαρία "silly talk, nonsense, foolery"

Lat. *fluō* "to flow"

M. PS **bly* "to become worn out"

Hebr. *bālāh* "to become old and worn out"; *bāleh* "worn out"; *bēlī* "destruction, defect, failure"

Aram. *bēlē* "to become worn out"

Ar. *baliya* "to be or become old, worn"; *balīy* "worn, decrepit, old, shabby"; *balīya* "trial, tribulation, affliction, distress, misfortune, calamity"

Tigre *balā* "to be old, worn out"

IE **bel*- (**bhel*-) "worn out, weak; misfortune, calamity"

Gk. φλαῦρος "bad, useless, mean, shabby"

Goth. *balwjan* "to torment, plague"; *blauþjan* "to abolish, make void"

OE. *bealo* "evil, calamity, injury"; *blēat* "miserable"

OIce. *blauþr* "soft, weak"

OCS. *bolěti* "to be sick"

Lith. *blūkšti* "to become weak"

N. PS **blg* "to shine"

IE **bel*- (**bhel*-) "shining, white"

Hebr. *bālay* "to gleam, smile"

Ar. *balaḡa* "to shine, dawn";

balīḡa "to be happy, glad"

Skt. *bhāla-m* "forehead"

Gk. φαλός "shining, white"

OCS. *bělv* "white"

Lith. *bālas*, *bāltas* "white"

- PS **blbts'* "to gleam, glitter" IE **belk'-, *blek'-* (**bheleg-*)
 "to shine"
 NSyr. *balbiṣ* "to gleam, glitter"
 Skt. *bhārgas-* "splendor, radiance"
 OCS. *blagъ* "good"
 Gk. *φλέγω* "to burn, blaze"
 Lat. *flagrō* "to blaze, burn, glow"; *fulgor* "lightning"
 OE. *blæcern*, *blācern* "lantern"
 IE **bleEi-* (**bhlēi-*, **bhlēi-*, **bhlī-*) "to shine"
 OE. *blēo* "color, appearance, form";
blīcan "to shine, glitter";
blāc "bright, white"
 OCS. *blědo* "light green, yellow"
 IE **bles-* (**bhles-*) "to shine"
 OE. *blæse* "torch, fire"
 IE **bluH-* (**bhlēu-*, **bhlēu-*, **bhlū-*) "to shine"
 Pol. *blysk* "lightning"
 IE **bleus-* (**bhleu-s-*) "to shine, burn"
 OE. *blýsa* "torch, fire"
 Czech *blýskati* "to shine"
 IE **bleE-wo-s* (**bhlē-wo-s*)
 "golden-yellow"
 Lat. *flāvus* "golden-yellow"
 OHG. *blāo* "blue"
- O. PS **brk'* "to shine, be bright" IE **berHk'-, *breHk'-* (**bherēg-*,
**bhrēg-*) "to shine, be bright"
 Hebr. *bāraq* "to flash"; *bārāq*
 "lightning"
 Aram. *barqā* "lightning"
 Ug. *brq* "lightning"
 Ar. *baraqa* "to shine, glitter, sparkle"; *barq* "lightning"
 Akk. *birqu* "lightning"
 Har. *berāq* "lightning"
 Skt. *bhrājate* "to shine, gleam, glitter"
 Lith. *brėkšti* "to dawn"
 Goth. *bairhts* "bright"
 Hitt. *pār-ku-iš* "pure, clean"
 Welsh *berth* "beautiful"

- Eg. *brg* "to give light" IE **breHk-* (**bhrēk-*) "to shine"
- PS **brr* "to be or become clear or bright; to purify, clean" Skt. *bhrāśate* "to shine, glitter"
- Hebr. *bārar* "to purify"; *bar* "pure, clean"
- Akk. *barāru* "to be or become clear, bright, shining; to shine, gleam"
- Ug. *brr* "clean"
- Amh. *bār̄ra* "to burn, be lit"; *abār̄ra* "to be aglow, shine"; *bər̄ra* "clear weather"
- P. PS **brw/y* "to swell, puff up" IE **bar-*, **ber-* (**bhar-*, **bher-*) "to swell, expand, puff up, bristle"
- Akk. *barū* "to be puffed up, fat, swollen"
- Hebr. *bārā'* "to be fat" Skt. *bhrstī-s* "point, spike"
- PS **brtš* "cypress, pine" OIce. *bār̄r* "pine-needles"
- Akk. *burāšu* "pine" OE. *byrst* "bristle"; *breord* "brim"; *brord* "point"
- Hebr. *berōš* "cypress, pine" OCS. *bor̄* "spruce, fir"
- Aram. *berōθ* "cypress, pine" OIr. *baingen* "bread"
- PS **brdz* (< **brg*) "to stand out, protrude" Russ. *boršč* "hogweed"
- Ar. *baraza* "to show, appear, come into view, emerge; to jut out, protrude, be prominent, stand out" Lat. *fermentum* "leaven, yeast"
- PS **br̄* "to expand, surpass" IE **bardaA* (**bhardhā*) "beard"
- Ar. *bara'a* "to surpass, excel"; *bar'ama* "to bud, burgeon, sprout" Lat. *barba* "beard"
- PS **br̄* "to expand, surpass" OS. *barda* "beard"
- Ar. *bara'a* "to surpass, excel"; *bar'ama* "to bud, burgeon, sprout" OCS. *brada* "beard"
- PS **br̄* "to expand, surpass" IE **berm-*, **brem-* (**bherem-*) "to bristle"
- Ar. *bara'a* "to surpass, excel"; *bar'ama* "to bud, burgeon, sprout" OHG. *brāmma* "brier"
- PS **br̄* "to expand, surpass" OIce. *baɹmr* "brim"
- Ar. *bara'a* "to surpass, excel"; *bar'ama* "to bud, burgeon, sprout" OE. *brōm* "broom (plant)"
- PS **br̄* "to expand, surpass" IE **breu-* (**bhreu-*) "to bubble up, boil, seethe"
- Ar. *bara'a* "to surpass, excel"; *bar'ama* "to bud, burgeon, sprout" Skt. *bhurvāni-s* "restless, excited"
- Eg. *br̄br* "to boil over" Lat. *ferveō*, *fervō* "to boil, seethe"

- Mlr. *berbaim* "to boil"
 OE. *brēowan* "to brew"
 OIce. *brauð* "bread"
- IE **breus-* (**bhreus-*) "to swell"
- OE. *brēost* "breast"
 OIr. *brú* "belly"
- IE **berg-* (**bherǵh-*) "to be prominent, high"
- Skt. *br̥hánt-* "high, tall, great"
 Arm. *barj̄r* "high"
 OE. *beorh*, *beorg* "hill, mountain"
 Hitt. *pár-ku-uš* "high"
- IE **brend-* (**bhrendh-*) "to puff up, swell"
- Lith. *brėsti* "to ripen, mature"
- Q. PS **br?* "to work with a sharp tool, scratch, cut, grate, bore"
- IE **ber-* (**bher-*) "to work with a sharp tool, scratch, grate, cut, bore"
- Hebr. *bārē'* "to cut down, cut out"
 Pun. *br'* "engraver"
- Gk. *παράω*, *παράω* "to plow"
 Lat. *forō* "to bore, pierce"
 OE. *borian* "to bore, pierce"
- PS **bry* "to trim, shape, sharpen, scratch off, scrape off"
- IE **berd-*, **bred-*, **br̥d-* (**bheredh-*) "to cut"
- Skt. *bardhaka-s* "cut off"
 OE. *bred* "board"; *bord* "board, plank"
- Ar. *barā* "to trim, shape, sharpen, scratch off, scrape off"
- IE **breEi-* (**bhrēi-*, **bhr̥i-*) "to cut with a sharp tool"
- PS **br̥dz* "to bore, pierce"
- Skt. *bhr̥nāti* "to injure, hurt"
 Welsh *brîw* "wound"
- Aram. *bēraz* "to bore, pierce"
- Russ. Ch. Sl. *br̥iju* "to shear, clip"
- PS **brd* "to file"
- Lith. *br̥žti* "to scratch, sketch, design"
- Ar. *barada* "to file"
- PS **br-br-* "to hollow out"
- Amh. *boräbborä* "to hollow out, cut a groove"

3.15. PS p = IE p:

- A. PS **psw* "to fart" IE **pest'*- (**pezd*-) "to fart"
- Ar. *fasā* "to fart noisely"
Har. *fās* "fart"
Tuareg *fəzɣ* "fart"
Bilin *faša* "to fart"
- Lat. *pēdō* "to fart"
Gk. βδέω "to fart"
Czech *pezd* "anus, fart"
- B. PS **hp* "to gather, collect" IE **h^hop*- (**op*-) "to gather wealth; to be abundant, rich, wealthy"
- Hebr. *hāpaš* "to search"
Ar. *hafaša* "to gather wealth"
Ug. *hpš* "to gather, collect"
Eth. *hafaša* "to gather"
- Hitt. *hapzi* "to be abundant";
happin-, *happinant*- "rich"
- Lat. *opēs* "resources, means, wealth"; *Ops* "the goddess of abundance"; *opulens* (< **open-ont*-) "rich, wealthy"
- PS **hpl* "to gather together"
- Skt. *āpnas*- "possession, property"
- Ar. *hafala* "to gather, assemble, congregate; to flow copiously; to be replete, teem"; *hāfil* "full, filled, replete, abundant, copious"
- C. PS **pr* "to surpass, outstrip, excel" IE **per*- (**per*-) "preceding, surpassing"
- Hebr. *pera'* "leader, prince"
Ar. *fara'a* "to surpass, outstrip, excel"
Ug. *pr'* "the best"
- Skt. *pāri* "around"
pāra-s "far, distant"
purās "in front, forward, before"
purati "to precede, go before"
prā- "before, in front"
pratarām "further"
prāti "towards, near to, against"
prathamā-s "foremost, first"
- Eg. *prī* "to go forth, go up";
pry "hero, champion";
prw "excess, surplus"
- Gk. περί "around"
περᾶν, πέραν "across, beyond, on the other side"
παρά, παρὰ "beside"
πᾶρος "before"
πρό "before"
πρότερος "before, in front of, forward"
πρῶτος "first, foremost"
πρόμος "chief, foremost man"

- πρόνα "forthwith"
 πρόσ, προτί "from"
 Lat. *per* "through, along, over"
prae "before, in front"
prō "before, in front of"
prīmus "first, foremost"
 Goth. *faur* "for, before"
frauja "master, lord"
fairra "far"
 OSax. *furist* "first, foremost"
furisto "prince"
 Lith. *priē* "at, near, with, by"
prō "through, past, by"
priēš "against"
 Hitt. *pa-ra-a* "forth"
pi-ra-an "before, forth"
- D. PS **pʔm* "to become full"
 IE **poʔi-* (**pōi-*, **pī-*) "to swell, fatten"
 Hebr. *pīmāh* "superabundance, fat"
 Ar. *fa'ana* "to fill, become full"; *fī'ām* "group"
 Skt. *páyate* "to swell, fatten, overflow, abound"; *pīvan-* "swelling, full, fat";
páyas- "milk"
 Gk. πῶν "fat, rich"
 Lith. *píenas* "milk"
 IE **poʔ(i)-* (**pō[i]-*) "to drink, swallow"
 Skt. *pāti*, *pībati*, *páyate* "to drink, swallow"; *pīyáte* "to drink"; *pítu-s* "juice, drink, nourishment, food"
 Gk. πίνω, Lesb. πώνω "to drink"
 Lat. *bibō*, *pōtō* "to drink"
 OCS. *piti* "to drink"
- E. PS **pry* "to bring forth, bear fruit"
 IE **per-* (**per-*) "to bring forth, produce"
 Hebr. *pārāh*, *pārā'* "to bring forth, bear fruit"; *perī* "fruit"
 Akk. *pir'u* "issue, offspring, descendant"
 Phoen. *pry* "to bear fruit"
 Ug. *pr* "fruit"
 Eth. *fere* "fruit"
- Lat. *pariō* "to bear, bring forth"
 Lith. *perėti* "to hatch"

- Eg. *prt* "fruit"
Galla *firi* "fruit"
- F. Eg. *pđ* "knee, foot" IE **pet'-* (**ped-*) "foot"

Skt. *pad-* "foot"
Gk. *πούς, ποδός* "foot"
Lat. *pēs, pedis* "foot"
Goth. *fōtus* "foot"
Luw. *pa-ta-aš* "foot"
Lyc. *pede-* "foot"
- G. Eg. *pt* "to run, flee" IE **pet-* (**pet-*) "to rush, fly, flee"

Skt. *pátati* "to fly, soar, rush, fall"
Gk. *πέτομαι* "to fly"
Lat. *petō* "to make for, go to, seek"
- H. PS **pr†* "to spread, scatter" IE **per-* (**per-*) "to spray, scatter"

Hebr. *pāraś* "to spread, expand, stretch out";
pēraś "to stretch, spread, scatter"
Ar. *faraša* "to spread, spread out"

PS **prđ* "to spread out, extend, stretch"

Ar. *farada* "to spread, spread out, extend, stretch"

IE **perk-*, **prek-* (**perk̑-*, **prek̑-*) "scattered, spread out"

Skt. *pṛśni-s* "spotted"
Gk. *περηνός* "dark-colored"
OIr. *erc* "speckled"

IE **pers-* (**pers-*) "to sprinkle"

Hitt. *pa-ap-pár-aš-zi* "to pour, sprinkle"
Skt. *pṛśat* "drop of water"
OIce. *fōrs* "waterfall"
Czech *pršetí* "to sprinkle, rain, drizzle"
Toch. A *pārs-* "to water, wet, sprinkle"
Lith. *puškšti* "to besprinkle"

- IE *(s)per- (*[s]per-) "to strew, scatter, spread"
- Gk. σπεύρω "to sow, scatter, strew"
- OIce. *spræna* "to spirt, sprout"
- OHG. *spreiten* "to spread"
- IE *(s)perk'- (*[s]p[h]ereg-) "to scatter, strew"
- Skt. *sphūrjati* "to burst forth"
- Lat. *spargō* "to scatter, strew, sprinkle, pour forth"
- OIce. *sparkr* "lively, sprightly"
- I. PS *pł- "flat, level, broad" IE *pel-, *plaA- (*pelə-, *plā-) "even, level, flat, wide, broad"
- Hebr. *pillēs* "to level, straighten out"; *peles* "balance, scale"
- Akk. *palkū* "wide"
- Ar. *faltāḥa* "to make broad; to broaden, flatten"; *fiṭṭaḥ* "broad, flat"
- Phoen. *pīs* "level"
- Ug. *plk* "wide overgarment"
- Hitt. *pal-ḫi-iš* "broad"
- Skt. *prthū-s* "broad, wide"; *prāth-ati* "to spread, extend"
- Gk. πλατύς "wide, broad, flat, level"
- Lat. *plānus* "even, level, flat"; *pālma* "palm"
- Lith. *plónas* "thin"; *plótas* "expanse, space"
- Welsh *llydan* "wide, broad"
- OIce. *flatr* "flat, level"
- J. PS *pr- "heifer, calf" IE *per- (*per-) "heifer, calf"
- Hebr. *par* "young bull, steer"; *pārāḥ* "heifer, calf"
- Ar. *farqad* "calf"
- Ug. *pr* "young cow"
- Akk. *pūru* "young bull or calf"
- OE. *fearr* "bull"
- Arm. *ort'* "calf"
- Eg. *pry* "ferocious bull"
- K. PS *płm "to burn, char; charcoal" IE *pahhur (*pāwer, *pūr) "fire"
- Hebr. *peḥam* "coal, charcoal"
- Ar. *faḥuma* "to make black, char"; *faḥm* "charcoal, coal"
- Akk. *pēntu* "(glowing) coal"
- Hitt. *pa-aḫ-ḫur* "fire"
- Gk. πῦρ "fire"
- Umbr. *pīr* "fire"
- OIce. *fūr* "fire"
- Toch. A *por*, B *puwār* "fire"
- Czech *pýř* "glowing ashes, embers"

- Phoen. *pḥm* "charcoal"
 Ug. *pḥm* "(glowing) coal"
 Eth. *fəḥəm* "charcoal"
 Har. *fəḥama* "to be red-hot"
 Amh. *fəm* "embers"; *famä* "to become glowing"
- L. PS **pṭḥ* "to open, untie, loosen"
 IE **pet-* (**pet-*, **petə-*) "to open, spread"
- Hebr. *pāṯaḥ* "to open, untie, loosen"
 Ar. *fataḥa* "to open"
 Aram. *pəṯaḥ* "to open"
 Akk. *pītū*, *petū*, *patū* "to open"
 Phoen. *pṭḥ* "to open"
 Eth. *fatḥa* "to open"
 Ug. *pṭḥ* "to open"
 Har. *fätaḥa* "to untie, set free"
 Amh. *fätta* "to release, untie, unfasten, divorce"
- Eg. *pṭḥ* "to open"
- PS **pty* "to be open, wide"
- Hebr. *pāṯāḥ* "to be open, wide, spacious"
 Aram. *pəṯā* "to be spacious"
- M. PS **prđ* "to separate, divide"
 IE **per-* (**per-*) "to separate, divide"
- Hebr. *pāraḥ* "to separate, divide"; *pēraḥ* "to separate, disintegrate, loosen, decompose"
 Har. *färāda* "to judge"
- PS **prk* "to separate, divide"
 Lith. *pirkti* "to buy"
- Hebr. *pāraq* "to unload, deliver, set free, extricate"; *pēraq* "to break, remove, unload, dismantle, take apart"
 OIr. *rann* "part"
- Ar. *faraqa* "to separate, part, divide, sever"
 Ug. *prq* "to separate"
- Av. *pašana-* "wide, broad"
 Gk. *πετάννυμι* "to spread out"
 Lat. *pateō* "to be open"
 OIce. *faðmr* "fathom"
- Hitt. *pār-ši-ya-az-zi* "to break, divide"
 Skt. *pūrtā-m* "gift, reward"
 Gk. *περάω* "to sell abroad"; *πορεῖν* "to furnish, present, offer"
- Lat. *pār* "equal"; *pars* "part, portion, share"; *portiō* "part, section, division"

PS **prts*' "to break through"

Hebr. *pāraṣ* "to break, break through, demolish, erupt; to burst, spread, break out"; *pārūṣ* "crushed, cracked, broken through"

Ar. *faraṣa* "to break through"

Akk. *parāṣu* "to break through"

Phoen. *prṣ* "to break through"

Ug. *prṣ* "opening"

PS **prg* "to part, separate"

Ar. *faraḡa* "to open, part, separate, cleave, split, breach"

PS **prt*' "to divide into parts"

Hebr. *pāraṭ* "to change (money); to give details, itemize; to divide into parts"

Har. *fārāṭa* "to burst"

Eg. *prḏ*, *prt* "to separate";
prḥ "to divide, separate"

N. PS **plg* "to split, cleave, divide"

Ar. *falaḡa* "to split, cleave"

Hebr. *pālay* "to split, divide, separate"; *peley* "canal, channel"

Phoen. *plg* "to divide"

Akk. *palgu* "canal"

PS **plḥ* "to split, cleave"

Hebr. *pālah* "to cleave"; *pelaḥ* "mill-stone"

Ar. *falaḡa* "to split, cleave, plow, till"

PS **plk*' "to split, cleave, break forth"

Ar. *falaqa* "to split, cleave; to burst, break (dawn)"

IE **plē(i)-* (**plē[i]-*) "to split, cleave, rend"

OIce. *flaska* "to split"; *flakna* "to flake off, split"

OE. *flēan* "to flay"

Lith. *plýšti* "to split, break, burst"

IE **(s)pel-* (**[s]p[h]el-*) "to split, cleave"

Skt. *phálati* "to split, cleave"

OHG. *spaltan* "to split, cleave"

IE **pels-* (**pels-*) "stone"

Gk. πέλλα (< *πελσα) "stone"

Skt. *pāṣyā* (< *parṣ-) "stone"

Pashto *parṣa* "stone"

OHG. *felis* "stone"

OIr. *aíl* "rock"

Har. *fäläqa* "to hit the head
with a stone or stick so
that blood comes out"

Amh. *fäläqqäqä* "to split,
break loose"

PS **pl̥t*' "to break through" >
"to escape"

Hebr. *pālaṭ* "to escape"

Ug. *pl̥ṭ* "to be freed"

Phoen. *pl̥ṭ* "to escape"

Har. *fäläṭa* "to split wood
with an axe"

Eth. *falata* "to separate"

PS **pl̥s* "to split, cleave"

Ar. *fala'a* "to split, cleave"

PS **pl̥š* "to break open or
through"

Hebr. *pālaš* "to break open or
through"

Akk. *palāšu* "to dig a hole"

PS **pl̥l* "to separate, divide"

Ar. *falla* "to dent, notch,
blunt; to break; to flee,
run away"

Hebr. *pālal* "to arbitrate,
judge"

Eth. *falfala* "to break out,
burst, gush"

3.16. PS *d* = IE *d*:

A. Eg. *d̥l* "to give, set, place"

IE **de?*- (**dhē*-) "to set, put,
place"

Skt. *dādāhāti* "to put, place"

Gk. *τίθημι* "to set, put, place"

OCS. *děti* "to put, place"

Hitt. *da-a-i* "to put, place"

OE. *dōn* "to do, act, make"

- B. PS **d̥l̥l* "to dangle, hang, be low"
 IE **d̥el-* (**dhel-*) "to dangle, swing"
 Hebr. *dālāl* "to hang, dangle, be low"
 Arm. *doḵam* "to tremble, shake, quiver"
 Akk. *dalālu* "to be weak, humble"
 Swed. dial. *dilla* "to swing, dangle"
 Ug. *d̥ll* "to humiliate, look down upon"
 Low Germ. *dallen* "to dangle"
 Ar. *daldala* "to set into a swinging motion, dangle";
dalā "to let hang, dangle; to hang, suspend"
- C. PS **d̥bk'* "to stick together, join"
 IE **d̥ab-* (**dhabh-*) "to fit together"
 Hebr. *dāḇaq* "to adhere to, cling to"
 Arm. *darbin* "smith"
 Aram. *dəḇaq* "to stick together, join"
 Lat. *faber* "skillful"
 Ar. *dabiqa* "to stick, adhere"
 Goth. *ga-daban* "to be fitting, happen"
 OE. *ge-dæfte* "gentle, meek"
 OCS. *dobro* "good"
 Lith. *dabinti* "to adorn, decorate"
- D. PS **d̥rr* "to be strong, free, independent"
 IE **der-* (**dher-*) "to be strong, solid, firm; to make strong, support, maintain"
 Hebr. *derōr* "freedom, liberty"
 Skt. *dhārāyati* "to hold, bear, preserve, keep"
 Akk. *darāru* "to be strong, free, independent"; *darru* "strong"; *darrūtu* "power, strength"
 Lith. *daryti* "to make"
 Toch. A *tsär* "hard"
 IE **derb-*, **dreb-* (**dherebh-*)
 "to make or become strong, solid, firm"
 Gk. *τρέφω* "to make to grow, rear, breed; to thicken, congeal, curdle; to become firm; to maintain, support"; *τρόφικς* "well-fed, stout"
 OSax. *derbi* "strong, powerful"
 OIce. *djarfr* "bold, daring";
dirfa "to dare"

- IE **ders-* (**dher-*) "to be bold, dare"
- Skt. *dhṛṣṭi*-s "bold, courageous, strong"; *dhṛṣṇóti* "to dare, be bold"
- Gk. *θάρσος* "courage, boldness"
- OE. *ge-dyrstig* "bold, daring"
- Toch. A *tsraṣi* "energetic"
- Lith. *drįsti* "to dare"
- IE **derg-*, **dreg-* (**dheregh-*) "to be bold, strong"
- Skt. *dhṛhyati* "to be strong"
- OCS. *drožati* "to be bold"
- IE **dreug-* (**dhereugh-*) "to be solid"
- OIce. *driūgr* "solid, substantial"
- E. PS **drr* "to flow copiously" IE **der-* (**dher-*) "to gush forth"
- Ar. *darra* "to flow, copiously" Skt. *dhārā* "flood, gush"
- Hebr. *ḏerḏr* "flowing" Gk. *θορός*, *θορή* "semen"; *θοῦρος* "rushing, raging"
- Ug. *dr* "to flow"
- F. PS **dwy* "to sound, resound" IE **dwen-* (**dhwēn-*) "to sound, resound"
- Ar. *dawā* "to sound, drone, echo, resound"; *dawīy* "sound, noise, drone, roar, echo, thunder" Skt. *dhvānati* "to sound"
- OE. *dynian* "to resound"; *dyne* "noise, loud sound"
- G. PS **dm* "to be dirty, filthy" IE **der-* (**dher-*) "to be dirty, filthy"
- Ar. *darina* "to be dirty, filthy"; *ḏaran* "dirt, filth"
- Lat. *fracēs* "dregs of oil"
- OIce. *dregg* "dregs, lees"; *drit* "dirt"
- OE. *drōsne* "dregs, dirt"; *deorc* "dark"; *dærste* "dregs, lees"
- Lith. *dėrgti* "to become dirty"; *dėrkti* "to make dirty"; *dargūs* "dirty, filthy"
- Mr. *derg* "red"

3.17. PS *t* = IE *t*:

- A. Eg. *tp* "to burn; flame, fire" IE **tep-* (**tep-*) "to burn, be hot"
- Skt. *tāpati* "to heat, make warm"
 Lat. *tepeō* "to be lukewarm"
 OIr. *té* "hot"; *ten* "fire"
 Hitt. *tapašša-* "fever"
- B. PS **trp* "to have enough, live in luxury" IE **terp-*, **trep-* (**terp-*, **trep-*) "to have enough, be satiated"
- Ar. *tarifa* "to live in opulence, luxury"; *taraf* "affluence, opulence, luxury"
 Skt. *tīpyati* "to become satiated"
 Gk. *τέρω* "to satisfy, delight, please; to be delighted, have enough"
 Har. *tārāfa* "to be in excess" Goth. *þrafstjan* "to console, comfort"
 Amh. *tārrāfä* "to be left over, remain, be in excess, be superfluous"; *terf* "profit, gain, excess" Lith. *tārpti* "to thrive, grow luxuriantly"
- C. PS **tr-* "to shake violently" IE **tres-*, **ters-* (**tres-*, **ters-*) "to shake, tremble"
- Ar. *tartara* "to shake violently" Skt. *trāsati* "to tremble, quiver"
 Akk. pres. *itarrur* "to shake" Gk. *τρέω* "to tremble, quiver"
 Har. (a) *trātāra* "to shake the grain on the *afuftu-* plate to separate it from sand or to separate the finely ground flour from the underground" Lat. *terreō* "to frighten, terrify"
- IE **trem-* (**trem-*) "to tremble, shake"
- Gk. *τρέμω* "to tremble, quiver"
 Lat. *tremō* "to tremble, quake"
 OCS. *tręsti* "to shake"
- D. PS **t* "this" IE **to-* (**to-*) "this, that"
- Ar. *tī*, *tā* "this" Skt. *tād* "this, that"
 Gk. *τό* "this, that"
 Eg. *tn* "this" Goth. *þata* "that"
 Lith. *tās* "this, that"
 Toch. A *tām* "this"
 Hier. Luw. *tas* "this"

- E. PS **təl-* "to lift, raise; hill, mound"
 IE **tel-* (**tel-*) "to lift, raise, weigh"
 Hebr. *tālā'*, *tālāh* "to hang";
tēl "mound"; *tālūl* "lofty, exalted"
 Ar. *tall* "hill, elevation";
talī' "outstretched, long, extended; high, tall"
 Ug. *tł* "hill, mountain"
 Akk. *tillu* "ruin"
 Eg. *tn* "to raise, elevate"
 Skt. *tuḷā* "balance, scale"; *tulayati* "to lift, weigh"
 Gk. *τέλλω* "to make to arise";
τάλαντον "balance, scale";
τλήναι "to suffer, endure, bear"
 Lat. *tollō* "to lift up, raise, elevate"; *tolerō* "to endure, sustain"
 Goth. *þulan* "to tolerate, suffer, endure"
 Toch. A *täl-* "to lift, raise"
- F. PS **t* "you"
 IE **te* (**te*) "you"
 Ar. m. *'an-ta*, f. *'an-ti* "you";
 verbal suffix conjugation
 2nd sg. endings m. *-ta*,
 f. *-ti*
 Akk. m. *at-tā*, f. *at-tī*
 Hebr. m. *'at-tāh*, f. *'at-t(ī)*
 Eth. m. *'an-ta*, f. *'an-tī*
 Skt. *te* (< **toi*) "you"; 2nd pl.
 verb ending *-ta* (= Gk. *-τε*)
 Gk. *τοῦ* "you"
 Lat. *tē*, *tibī* "you"
 Pal. *tī-i* "you"
 Hitt. *zi-ik* "you"
 OCS. *ti*, *tebě* "you"
- G. PS **trb* "to become dusty"
 IE **ters-* (**ters-*) "to become dry"
 Ar. *tarība* "to become dusty";
turba "dust, earth"
 Av. *taršu-* "dried up, parched, arid"
 Skt. *tṛṣyati* "to thirst"; *trṣṭá-s*
 "dry, rough"
 Gk. *τέρσσαι* "to be or become dry"
 Lat. *torreō* "to parch, dry up";
terra "earth, ground"
 Goth. *þaursus* "dry, withered";
þaursjan "to thirst"
- H. Eg. *twṣw* "pustules, swellings, warts"
 IE **teu-* (**teu-*, **tewə-*) "to swell"
 Lat. *tūber* "swelling, protuberance"; *tumēō* "to swell, be swollen"
 Skt. *tavās-* "strong"
 Gk. *τύλη*, *τύλος* "knot"
 Lith. *tumėti* "to become thick";
taukaĩ "(animal) fat"

3.18. PS *t'* = IE *t'*:

- A. PS **t'rp* "to tear, rend, pluck" IE **t'rep-* (**drep-*) "to pluck"
 Hebr. *ṭāraʕ* "to tear, rend, pluck"
 Aram. *ṭaraʕ* "to tear, seize" Gk. *δρέπω* "to pluck, cull"
 OIce. *tröf* "fringes"
 Russ. dial. *drápat'*, *drapát'* "to scratch, scrape"
- B. PS **mt'r* "to rain" IE **mat'-* (**mad-*) "to be wet, moist"
 Hebr. *māṭār* "rain"
 Akk. *meṭru* "rain"
 Ar. *maṭara* "to rain" Gk. *μαδάω* "to be moist"
 Lat. *madeō* "to be wet"
 Skt. *mādati* "to be glad, rejoice, get drunk"
- C. PS **t'll* "to bedew; dew" IE **t'el-* (**del-*) "to bedew, drip gently"
 Hebr. *ṭal* "dew"
 Ug. *ṭl* "dew"
 Ar. *ṭalla* "to bedew"
 Eth. *ṭal* "dew"; *ṭalla* "to be wet, humid" Mlr. *delt* "dew"
 Arm. *teḷ* "heavy rain"
 Swed. *talg* "tallow"

3.19. PS *dž* = IE *d* (< *dž*):

- A. PS **džbh₁* "to kill, slaughter" IE **deb-* (**dhebh-*) "to harm, injure"
 Hebr. *zāḇaḥ* "to slaughter"
 Ar. *dabaha* "to kill, slaughter" Skt. *dabhnóti* "to hurt, injure"
 Akk. *zibū* "offering"
 Eg. *ḏb* "to pierce, stab"
- B. PS **džw-* "to scatter" IE **deu-* (**dheu-*) "to scatter, disperse, blow"
 Ar. *dā'a* "to spread out, disseminate"; *dāda* "to scatter, drive away" Skt. *dhūnóti* "to shake, agitate";
dhūmá-s "smoke"; *dhūli-s* "dust"
 Gk. *θύω* "to storm, rage"; *τύφω* "to smoke"
 Lat. *fūmus* "smoke"
 Lith. *dujā* "dust"; *dūmai* "smoke";
dūmti "to blow"
 Toch. A *twe*, B *tweye* "dust"

- C. PS *džr- "to defecate" IE *der- (*dher-) "to defecate"
- Hebr. zārā' "something loathsome"
 Lat. foria "diarrhea"
 OIce. drīta "to defecate"; drīt "bird excrement"
 Ar. ḍaraqa "to drop excrement (bird)"; ḍarab "diarrhea"

3.20. PS tš = IE t (< tš):

- A. PS *tšml "to become drunk" IE *tem- (*tem-) "to be dizzy, stupefied, drunk"
- Ar. tamila "to become drunk"
- Skt. tāmyati "to be faint, be exhausted"
 NHG. dämlich "dull, silly, stupid"
 Lat. tēmulentus "drunken, tipsy, intoxicated"; tēmētum "any intoxicating drink"
 Russ. Ch. Sl. tomiti "to torture, torment, harass, tire"
- B. PS *tšwr "bull, steer" IE *tauro-s (*tauro-s) "bull"
- Hebr. šōr "bull, ox"
 Gk. ταῦρος "bull, ox"
 Ar. taur "bull, steer" Lat. taurus "bull"
 Akk. šūru "ox" OIce. þjōrr "bull"
 Ug. tr "bull, steer" Lith. taūras "aurochs"

3.21. PS tš' = IE t' (< tš'):

- A. PS *tš'rb "to stick, adhere, make strong" IE *t'eru-, *t'reu- (*deru-, *dreu-) "to bind, pledge, guarantee, make strong"
- Ar. zariba "to stick, adhere";
zurriba "to become hard, strong"
 OIr. derb "certain"
 Akk. ṣarbatu "tree" Goth. triggws "true"
 OE. trēow "truth"
 Lith. driūtas "strong, firm"
 Eg. drī "hard, firm"
- IE *t'eru-, *t'reu- (*deru-, *dreu-) "tree, wood"
- Hitt. ta-ru "wood"
 Skt. dāru "wood"
 Gk. δόρυ "tree, beam"
 Goth. triu "tree, wood"

- B. PS **tš'll* "to overshadow" IE **t'el-* (**del-*) "to cover"
- Hebr. *šālāl* "to be or grow dark"
 OE. *be-teldan* "to cover"; *teld* "tent"
 Aram. *šālāl* "to overshadow"
 OIce. *tjald* "tent"
 Akk. *šālālu* "to overshadow"
 OHG. *zelt* "tent, vault, canopy"
 Ar. *šalla* "to shade, over-shadow"
 Ug. *tl* "to overshadow"
- C. PS **tš'nn* "to think, believe, assume, deem, consider" IE **t'ens-* (**dens-*) "great mental power, wise decision"
- Ar. *šanna* "to think, believe, assume, deem, consider";
 Gk. *δαύ-φρων* "wise of mind, prudent"; Hom. *δήνεα* (< **δανσ-*) "counsels, plans"
šann "opinion, belief, idea"
 Skt. *dānsas-* "marvelous power or skill"
 Av. *dahišta-* "very wise"
- D. PS **tš'rr* "a sharp instrument used for cutting, knife; to cut" IE **t'er-* (**der-*) "to cut, split"
- Ar. *zarra* "to cut, split"; *zirr* "sharp-edged stone, flint"
 Gk. *δέρω* "to skin, flay"
 Hebr. *šōr* "knife"; *šar* "flint"
 OE. *teran* "to tear"
 Akk. *šurtu* "knife"
 Skt. *drñāti* "to tear, rend, split open"

3.22. PS *dz* = IE *d* (< *dž* < *dz*):

- A. PS **dzmr* "to blow, play a wind instrument, make music" IE **dem-* (**dhem-*) "to blow"
- Ar. *šamara* "to blow, play (a wind instrument)"
 Skt. *dhamati* "to blow (as wind or to blow any wind instrument)"
 Hebr. **šmr* "to make music" >
 OCS. *dmq* "to blow"
šimrāh "melody, song"
 Akk. *šamāru* "to sing"
 Amh. *šāmmārā* "to sing"
 Aram. *šamrūrā* "flute"; *šamār* "music"
- Eg. *šbḥ* "to play the flute";
šbt "flute"

- B. PS **d̥zwl* "to disappear, vanish, cease to exist" IE **deu-* (**dheu-*) "to pass away, vanish, cease to exist"
- Ar. *zāla* "to disappear, vanish, cease to exist"; *zawāl* "end, extinction"
- Hebr. *zūlāh* "removal"
- Eg. *zw* "to pass, pass on, pass away, remove"
- Goth. *daups* "dead"; *daupus* "death"
- OIce. *deyja* "to die"
- Lat. *fūnus* "funeral, burial, corpse, death"
- OIr. *díth* "end, death"

3.23. PS *t̥s* = IE *t* (< *t̥s* < *t̥s*):

- A. PS **tsr̥h* "to go free, overrun, exceed" IE **terh̥h-* (**terə-*) "to overpower, overcome, surpass, cross over"
- Hebr. *sārah* "to go free, overrun, exceed"
- Ar. *saraha* "to move away, go away"; *sariha* "to proceed freely, without restraint"
- Eg. *trtr* "to overcome, destroy"
- Skt. *turāti* "to hurry"; *tūrvati* "to overpower"; *tāratī* "to cross over, overcome, surpass"; *trāyāte* "to protect, defend"
- Hitt. *tar-aḫ-zi* "to be powerful, be able"
- B. PS **tskk* "to join together, weave" IE **tek(s)-* (**tek[s]-*) "to join together, weave"
- Hebr. *sāḫaḫ* "to weave together"
- Ar. *sakka* "to lock, bolt (the door)"
- Skt. *tākṣati* "to fashion, create"
- Lat. *texō* "to weave"
- Hitt. *tāk-ki-(e-)eš-zi* "to join"

3.24. PS *t̥s'* = IE *t'* (< *t̥s'* < *t̥s'*):

- PS **t̥s'r̥h* "to become clear, evident" IE **t'ər-* (**der-*) "to become clear, evident"
- Ar. *ṣarūha* "to become clear, evident"
- Skt. *dārpaṇa-s* "mirror"
- OHG. *zorft* "clear"
- Gk. *δρωπάζειν, δρώπειν* "to see"

3.25. PS *dz* (< *g*) = IE *g*:

- A. PS **dʒl-* "to glide, slip, slide" IE **glei-* (**ǵhlei-*) "to glide, slip, slide"
 Ar. *zaliqa* "to glide, slide, slip, make slippery";
zalla "to slip"; *zalaġa* "to slip, slide, glide"
 Aram. *zəlay* "to pour forth (tears), flow down" OE. *glīdan* "to glide, slip"
 OHG. *glītan* "to glide, slip"
- B. PS **wǵzr* "to carry" IE **weg-* (**weǵh-*) "to bear, carry, weigh"
 Ar. *wazara* "to carry"; *wīzr* "burden"
 Hebr. *wāzār* "criminal, guilty" Lat. *vehō* "to carry, convey"
 Skt. *vāhati* "to carry, transport, convey"
 PS **wǵzn* "to weigh" OE. *wegan* "to carry, weigh"
 Lith. *vežti* "to carry, convey"
 Ar. *wazana* "to weigh"; *wazn* "weight, measure"
 Ug. *mzrm* (*√wzn*) "scales, balance"
- C. PS **dʒr-* "to sow, scatter seed; to plant, raise, grow" IE **ger-* (**ǵher-*) "to grow"
 Hebr. *zāraʿ* "to sow, scatter seed"; *zārāh* "to scatter";
zāraq "to toss, throw, scatter abundantly"
 Ar. *zaraʿa* "to sow, spread, scatter; to plant, raise, grow"
 Akk. *zīrū* "to sow"
 Har. *zāraʿa* "to sow"
 Phoen. *zrʿ* "offsprings" OE. *grōwan* "to grow"
 OHG. *graz* "shoot, sprig, sprout"
- D. PS **dʒrx* "to shine" IE **ger-* (**ǵher-*) "to shine"
 Hebr. *zeraḥ* "dawning, shining"
 Akk. *zarāhu* "to shine" OIr. *grían* "sun"
 Lith. *žeriu* "to sparkle, twinkle, glitter"
- E. PS **dʒrr* "to bind, gird" IE **ger-* (**ǵher-*) "to gird, enclose"
 Ar. *zarra* "to button up"
 Hebr. *zēr* "circlet, border";
zarsēr "girded, girt" Gk. *χóρος* "enclosed place"
 OE. *geard* "fence, enclosure"
 Lith. *gaĩdas* "enclosure"
 Eg. *ḏrī* "to constrain, enclose, fortify; wall, fort"

- F. PS **h₂ǵn* "to make sad, grieve" IE **h₂hag-* (**agh-*) "to grieve, be sad"
 Ar. *ḥazana* "to make sad, sadden, grieve"
 Har. *ḥuzni* "sadness"
 Eg. *ḥdrw* "to be overweighted, oppressed, disheartened, vexed, angry"
- Gk. ἄχος "pain, sorrow, grief"
 OE. *ege* "fear"
 Goth. *agis* "fright, fear, terror"

3.26. PS *t_s* (< k) = IE k:

- A. PS **t_sl-* "to lift up, weigh" IE **kel-* (**qel-*) "to lift, raise, elevate"
 Hebr. *sālā'*, *sālāh* "to weigh, balance"; *sālal* "to lift up"; *sōllāh* "mound"; *sullām* "ladder"
 Ar. *sullām* "ladder"
 Amh. *mäsälal* "ladder"
 Eg. *tn* "to lift up, raise"
- Gk. κολωνός "hill"
 Lat. *collis* "hill"
 OE. *hyll* "hill"
 Hitt. *kalmara* "hill"
 Lith. *keliiù* "to lift, raise"
- B. PS **t_sl-* "to twist, twine; basket" IE **kelk'-* (**qelg-*) "to twist, turn"
 Hebr. *sal* "basket"; *sālaφ* "to twist, pervert"
 Ar. *sall*, *salla* "basket"
 Akk. *sallu*, *sellu*, *sillu* "basket"
- MIr. *celg* "trick, treason"
 Arm. *ketok'* "hypocrisy"
 OE. *hyle* "bend, turn"
- C. PS **tsyr* "to move, go away, march" IE **kei-* (**qei-*) "to move, go away, march"
 Ar. *sāra* "to move, move on, move along, set out, march, travel, journey, go, go away, depart"
- Skt. *cyāvate* "to move, go away"
 Gk. κινέω, κίω "to go"; σείω "to set in swift motion, drive, chase"
 Lat. *cieō* "to cause to move, move, stir, excite, arouse"
 OPers. *ašiyava* "set out, marched"

3.27. PS *t_s'* (< k') = IE k':

- A. PS **bwtš'* "to flee" IE **beuk'-* (**bheug-*) "to flee"
 Ar. *bāṣa* "to flee" Gk. *φεύγω* "to flee"
 Lat. *fugiō* "to flee"
- B. PS **ts'rm* "to elapse, go by,
 pass, be past, be over" IE **k'ēr-* (**ġer-*) "to come to an
 end, grow old"
 Ar. *ṣarama* "to elapse, go by,
 pass, be past, be over" Skt. *jāratī* "to make old, grow
 old, decay"; *jāras-* "old
 age"
 Eg. *ḏr* "to bring to an end,
 finish"; *ḏrtyw* "ancestors,
 predecessors" Arm. *cer* "old, old man"
 Gk. *γέρων* "old man"; *γεραῖος*
 "old"
 OIce. *karl* "old man"
- C. Eg. *ḏrt* "bread, food, suste-
 nance"; *ḏrmyt* "a kind of
 seed or grain" IE **k'ērH-* (**ġerə-*) "grain, ker-
 nel"
 OIr. *grán* "grain"
 Lat. *grānum* "grain, seed"
 Lith. *žirnis* "pea"
 Goth. *kaurn* "grain"

3.28. PS *s* = IE *s*:

- A. PS **sml* "to be like, resemble" IE **sem-* (**sem-*) "like, same"
 Hebr. *semel* "image, statue" Skt. *samā-s* "equal, same"
 Gk. *ὁμός* "same"
 Eg. *sm*, *sm?* "to resemble"; *smt* "form, likeness"; *sm* "form,
 image" Lat. *similis* "like, similar"
 Goth. *sama* "same"
- B. PS **sgl* "to have, possess" IE **seġh-* (**seġh-*) "to have, hold"
 Hebr. *səyullāh* "possession,
 property" Gk. *ἔχω* "to have, hold"
 Skt. *sāhate* "to overcome, con-
 quer"
 Akk. *sugullāte* "herds" Goth. *sigis* "victory"
 Eg. *sḏwt* "treasure"
- C. PS **slḏ* "to spring, leap" IE **sel-* (**sel-*) "to spring, leap"
 Hebr. *sālaḏ* "to spring, leap" Lat. *salīō* "to spring, leap, jump"
 Gk. *ἄλλομαι* "to spring, bound,
 leap"

- D. PS **skn* "to cut, carve; knife" IE **sek-* (**seq-*) "to cut"
- Hebr. *sakkīn* "knife, blade"
 Ar. *sikkīn* "knife"
 Ug. *skn* "to form, fashion, shape; monument, statue"
 Eg. *skr* "to cut, smite"; *skn* "to cleave, split"
- Lat. *secō* "to cut, wound, hurt"
 OE. *seax* "knife"
 Welsh *hesg* "sedges"
 OCS. *šěkq* "to chop"
- E. Eg. *sw*, *swr*, *swrī*, *swī* "to drink"; Copt. *sō* "to drink"
- IE **seu-* (**seu-*, **sewə-*, **sū-*) "to drink"
- Lat. *sūgō* "to suck"
 OIce. *sūpa* "to sip, drink"
 OE. *sēaw* "juice, liquid"
- Berb. *su* "to drink"
 Sid. *sō* "to drink"
- IE **swel-* (**swel-*) "to drink, swallow"
- OE. *swelgan* "to swallow"
 OIce. *svelga* "to swallow"
- 3.29. PS *š* = IE *s* (< *š*):
- A. PS **šə?* "to be at rest, quiet" IE **se?* (**sē-*) "to be at rest, quiet"
- Hebr. *šā'an* "to be at ease or at peace, rest securely"
 Ar. *sa'ima* "to be weary, tired"
 Ug. *šīn* "present, gift" < **ap-peasement*
- Gk. *ἡσυχος, ἡσύχτος* "quiet, still, at rest, at ease"
 Skt. *sāyā-m* "evening"
 Lat. *sērus* "late, tardy"
- B. PS **šlm* "to be safe and sound" IE **sol-* (**sol-*) "whole, safe, uninjured"
- Hebr. *šālēm* "to be complete, sound"
 Ar. *salīma* "to be safe and sound"
 Akk. *šalāmu* "to be safe, unharmed"
 Ug. *šlm* "to be safe and sound"
- Lat. *salvus* "safe, unhurt, well, sound"
 Skt. *sārva-s* "all, whole, entire"
 Gk. *ὅλος* "whole, entire, complete"
 Toch. A *salu* "completely, entirely"
- (Eg. *snb* [*< *šnb ?*] "to be sound, healthy")

- C. PS *šr- "to creep, crawl, flow" IE *ser- (*ser-, *serp-, *sreu-)
 "to creep, crawl, flow"
 Hebr. šāraṣ "to swarm, teem"
 Ar. sarība "to flow, creep";
 sirb "herd, flock, swarm";
 sārība "reptile"
 Syr. šeraṣ "to creep, crawl" Skt. śarati "to run, flow, move";
 śarpati "to creep, crawl";
 śrāvati "to flow"
 Lat. serpo "to creep, crawl";
 serpens "snake, serpent"
 Gk. ἔρπω "to creep, crawl"; ῥέω
 "to flow"
 Lith. sraviù "to flow"
- D. PS *šll "to take away, remove" IE *sel- (*sel-) "to take, seize"
 Hebr. šālāl "to spoil, plunder" Gk. ἐλεῖν "to take, seize"
 Ar. salla "to pull out, with-
 draw, remove gently" OIr. sellaim "to take"
 OIce. selja "to give up, sell"
 Akk. šalālu "to spoil, plunder"
 PS *šlp "to draw out, pluck
 out"
 Hebr. šālāp "to draw out, off"
 Akk. šalāpu "to pluck out,
 draw"
 PS *šlb "to take away, rob"
 Ar. salaba "to take away, rob,
 steal, plunder"
 Eg. šrš "to plunder, carry off"
- E. PS *nšp "to breathe, blow" IE *nas- (*nas-) "nose"
 Hebr. nāšaṣ "to blow" Skt. naśā "nose"
 Ar. nasafa "to scatter, blow" OE. nosu "nose"
 Akk. našāpu "to blow, blow
 away" Lith. nosis "nose"
 Lat. nāris "nostril"
 Eg. nšp "to breathe, inhale"
- F. Eg. šm, šmm "to be hot"; šm,
 šmw "summer" IE *sem- (*sem-) "summer"
 OIr. sam "summer"
 OE. sumor "summer"
 Skt. śamā "season, year, summer"

- G. PS *š_{nn} "to grow old, age" IE *sen- (*sen-) "old"
- Ar. *sanna* "to grow old, age, be advanced in years";
 'asann "older, farther advanced in years";
 musinn "old, aged"
- Akk. *šanānu* "to have reached, attained"; *šinnatu* "attainment, achievement, equality"
- Lat. *senex* "old, aged"
 OIr. *sen* "old"
 Goth. *sineigs* "old"
 Lith. *sėnas* "old"
 Skt. *sāna-s* "old, ancient"

3.30. PS * < IE k (< kx < k̥ < t̥):

- A. PS *t̥s't̥s' (< *k̥'k') "fish-hook" IE *kek'- (*qeg-) "hook"
- Ar. *šīṣṣ* "fishhook"
- OE. *hōc* "hook"; *haca* "bolt"
 Russ. *kógot'* "claw"
- B. PS *k̥r- "to be high, tall, lofty" IE *ker- (*k̥er-) "top, summit, head"
- Ar. *šaruḥa* "to be high, tall, lofty"; *šaraf* "elevated place"
- Skt. *śíras-* "head"
 Gk. *κάρᾱ* "head"; *κορυφή* "summit"
 Arm. *sar* "height, point, peak"
 OIce. *hjarni* "brain"
 Lat. *cerebrum* "brain"
- Hebr. *śar* "chieftan, ruler"
 Akk. *šarru* "king"
- C. PS *k̥y- "to turn gray; gray hair" IE *kei- (*k̥ei-) "gray-haired, old"
- Akk. *šēbu* "old man"
- OE. *hār* "gray, hoary, old"
 Skt. *śi-ti-s* "white"
 OCS. *šěrv* "gray"
- Hebr. *śēḇ* "old age"; *śēḇāh* "gray hair, old age"
- Ar. *šāba* "to turn white or gray (hair)"; *šaiḇ* "gray hair"; *šāḥa* "to age"
- Eth. *šeba* "to have gray hair"
- Ug. *šb* "old man"; *šbt* "gray hair"
- D. PS *k̥ml "to enclose, contain, wrap" IE *kem- (*qem-) "to enclose"
- OFris. *hemme* "enclosed land"
- Hebr. *śimlāh* "wrapper, mantle"
- OIce. *hemja* "to restrain, hold back"
- Ar. *šamila* "to contain, wrap, enclose"; *šamla* "cloak, turban"
- Lith. *kamūoti* "to torment, torture"

- IE **kem-* (**k̑em-*) "to cover, cloak, wrap up"
 Skt. *śāmūla-s* "woolen shirt"
 Lat. *camisia* "linen shirt or night-gown"
 OE. *hama* "dress, covering"; *hemeþ* "shirt"
- E. PS **ʔnkl* "to hook up; peg, hook"
 Ar. *šankala* "to hook up"; *šankal* "peg, hook"
 PS **ʔnk'* "to hang"
 Ar. *šanaqa* "to hang"
- IE **kenk-* (**k̑enq-*) "to hook up, hang"
 Skt. *śaṅkū-s* "peg, nail, spike"
 Hitt. *ga-an-ki* "to hang"
 OIce. *hanga* "to hang"
 IE **kenk'-* (**qeng-*) "to hook up, hang"
 NPers. *šang* "claw, fist"
 OHG. *hank* "handle"
 Lith. *kėngė* "hook, clasp, latch"
- F. PS **ʔnr* "hair; hairy"
 Hebr. *šē'ār* "hair"
 Ar. *ša'rānī* "hairy"
 Akk. *šārtu* "hairy skin"
 Ug. *š'rt* "wool"
- IE **keyr-* (**k̑ēr-*) "hair"
 OE. *hār*, *hēr* "hair"
 OHG. *hār* "hair"
- G. PS **ʔr̥* "to become a youth, mature"
 Ar. *šaraha* "to become a youth, mature"
 Eg. *šrr* "boy, youth, young man"; *šrī* "boy, son"
 Hausa *saurayī* "young man"
- IE **ker-* (**k̑er-*) "to grow, mature"
 Arm. *ser* "descent, origin"
 Gk. *νόρος* "boy, son"
 Lat. *creō* "to make, create, produce"; *creōscō* "to spring forth, grow"
 OHG. *hirso* "millet"
- H. PS **ʔrr* "to harm, injure"
 Ar. *šarra* "to be vicious, bad, malicious"; *šarr* "injury, evil, harm"
 Eg. *šrsk* "to destroy"
- IE **ker-* (**k̑er-*) "to harm, injure, destroy"
 Skt. *śṛṇāti* "to crush, rend, break"
 Gk. *κῆρ* "death, destruction"; *καραύω* "to destroy, kill, plunder"
 Alb. *ther* "to kill, slay"
 Toch. A *kāryap* "injury, harm"

- I. PS **ṣarp* "to burn" IE **ker-* (**qer-*) "to burn"
- Hebr. *šāraṣ* "to burn"
 Akk. *šarāpu* "to burn"
 Ug. *šrp* "to burn"
 (Eg. *srf* [< **šrf* ?] "to be hot; heat, flame, fire")
- OE. *heorð* "hearth"
 Lith. *kārštas* "hot"
 Lat. *carbō* "burning or burnt wood"
 OIce. *hyrr* "fire"
- J. PS **ṣrt'* "to impose as a condition, make a contract, agreement" IE **kret'-* (**ḱred-*) "agreement, contract"
- Ar. *šaraṭa* "to impose as a condition, make a contract; to bet, wager"; *šarṭīya* "agreement, contract"; *šarṭ* "condition, clause, proviso, provision"
- Skt. *śrat-karoti* "to make secure, guarantee"; *śrad-dadhāti* "to believe, be trustful"
 Lat. *crēdō* "to trust, entrust"
 OIr. *cretim* "to believe"
- K. PS **ṣrt'* "to incise, scratch" IE **kert'-* (**qerd-*) "to incise, scratch, cut, carve"
- Hebr. *šāraṭ* "to incise, scratch"
 Ar. *šaraṭa* "to make incisions, scratch"
 Akk. *šarāṭu* "to slit up, rend"
- Gk. *κέρδος* "profit, advantage, gain"
 OIr. *cerd* "art, craft"
 Lat. *cerdō* "workman, artisan"

3.31. PS **ṣ'* = IE *k'* (< *kx'* < *kṭ'* < *tṭ'*):

- PS **ṣ'md* "to join together, yoke, harness" IE **k'em-* (**ḡem-*) "to be joined"
- Ar. *ḍamada* "to dress, bandage"
 Hebr. *šemeḏ* "couple, pair"
 Akk. *ṣamādu* "to yoke, harness"
 Ug. *ṣmd* "team, yoke; to harness"
 Eth. *ḍamada* "to yoke oxen"
- Skt. *jāmī-s* "related"
 Gk. *γαμέω* "to marry"
 NPers. *dāmād* "son-in-law" (= Skt. *jāmātar-*; Av. *zāmātar-*; Gk. *γαμβρός*; Lat. *gener* [< **gem-*er]; Alb. *dhëndërr*, *dhândërr*; Lith. *žentas*; OCS. *zeto*)
- Eg. *ḏmm* "to unite with"; *ḏmṣ* "to bind, tie together"; *ḏmṣ* "to join, bring together"; *ḏmd* "to unite with, add to"

3.32. PS *g* = IE *g*:

- A. PS **mgd* "to be great, mighty, exalted, glorious" IE **meg-* (**meǵh-*, **moǵh-*) "to be great, mighty"
- Hebr. *meyēḏ* "excellence" Goth. *mahts* "might, power"
- Ar. *maǧada* "to be glorious, illustrious, exalted" OE. *magan* "to be able"
- Skt. *mahānt-* "great, large, powerful, venerable"; *mahāyati* "to honor, revere, esteem highly, magnify, exalt"
- OCS. *mogq* "to be able"
- B. PS **gb-* "highest point, top" IE **geb-* (**ghebh-el-*) "gable, head"
- Hebr. *gaṣ* "brow"; *gāṣaḥ* "to be high, exalted"; *gəṣāl* "mountainous region"; *giṣ'āh* "hill, height, elevation"
- Gk. *κεφαλή* "head, front end, point"
- Goth. *gibla* "gable, pinnacle"
- Toch. A *špāl-* "head"
- Akk. *gab'u* "summit, top"
- Ar. *ǧabīn*, *ǧabha* "forehead, brow"; *ǧabal* "mountain"
- Ug. *gb'* "hill"; *gbl* "mountain"
- C. PS **grb* "to scratch, itch" IE **ger-* (**ǵher-*) "to scratch scrape"
- Hebr. *gārāṣ* "itch, scab"
- Lith. *žeriù* "to rake"
- Akk. *garabu* "itch"
- Gk. *χαράσσω* "to cut, engrave, scratch"
- Ar. *ǧarab* "itch, scabies"
- PS **grd* "to scratch, scrape, peel" IE **greb-* (**ghrebh-*) "to scratch, scrape"
- Hebr. *gāraḏ* "to scratch, scrape"
- Goth. *graban* "to dig"
- Ar. *ǧarada* "to peel, pair" SCr. *grèbsti* "to scratch"
- IE **grem-* (**ghrem-*) "to scrape"
- Goth. *gramsta* "splinter"
- Lith. *grémžiu* "to scrape"
- D. PS **gr̥* "to crush, grate" IE **ger-* (**ǵher-*) "to crush"
- Ar. *ǧaraša* "to crush, grate, grind"; *ǧariš* "crushed grain, grits"
- Gk. *κέγχρος* "millet"; *μάχρος* "parched barley"
- Hebr. *gereš* "groats, grits" Lith. *gùrti* "to crumble"

- PS **grn* "threshing floor" IE **gersd-* (**ĝherzdḥ-*) "barley"
- Hebr. *gōren* "threshing floor"
Ar. *ġarn* "threshing floor" Gk. *κρῖ* "barley"
Lat. *hordeum* "barley"
OHG. *gersta* "barley"
- PS **grs* "to be crushed" IE **grent'-* (**ghrend-*) "to grind"
- Hebr. *gāras* "to be crushed" Gk. *χόνδρος* (< **χρονδ-ρος*) "grain"
Lat. *freñdō* "to crush, bruise, grind"
- IE **grend-* (**ghrendh-*) "to grind"
- OE. *grindan* "to grind"
Lith. *grėndu* "to rub"; *grándyti* "to scrape"
- E. PS **gdd* "to gather together" IE **ged-* (**ghedh-*) "to gather together, collect"
- Hebr. *gāḏaḏ* "to gather in bands or troops" Skt. *gádhya-s* "seized"
OFris. *gadia* "to unite"
OE. *gadrīan* "to gather together, collect"
OCS. *godъ* "time"
- F. PS **grp* "to seize, grasp" IE **ger-* (**ĝher-*) "to seize, grasp"
- Hebr. *'eyrōḡ* "fist" Skt. *hárati* "to take"
Gk. *χεῖρ* "hand"
Arm. *jeṛn* "hand"
- G. PS **gšš* "to touch, feel, handle" IE **ges-* (**ĝhesor-*; **ĝhesto-s*) "to handle; hand"
- Hebr. *gāššaš* "to feel with the hand"
Ar. *ġassa* "to touch, feel, handle" Hitt. *ki-eš-šar* "hand"
Skt. *hāsta-s* "hand"
Lat. *praestō* (< **prae-hestōd*) "at hand"
- 3.33. PS *k* = IE *k*:
- A. PS **kpp* "palm, hand" IE **kap-* (**qap-*) "to seize"
- Hebr. *kaḡ* "palm"
Akk. *kappu* "hand" Lat. *capiō* "to take, seize"
OHG. *haft* "captivity"

Ar. *kaff*, *kiffa*, *kaffa* "palm
of the hand"
Ug. *kp* "hand"
Eth. *kappu* "palm of the hand"

Eg. *kp* "to seize"

B. PS **ʔkl* "to eat"

IE **ʔek-* (**eĝ-*) "to eat"

Hebr. *ʾāḫal* "to eat"
Ar. *ʾakala* "to eat"
Akk. *akālu* "to eat"
Ug. *ʔkl* "to eat"
Eth. *ʾəkəl* "food"

Skt. *ásnāti* "to eat"

C. PS **k-* "as, like; that, for,
when"

IE **kai* (**qai*) "when, as, though"

Hebr. *kə-* "as, like, as if";
kī "that, for, when"
Ar. *ka* "as, like"; *kai* "so
that"
Ug. *k* "as, like"
Akk. *kī* "that, for, when"

Eg. *kj* "so, then"

Gk. *καί* "and, also, even though"
Lith. *kaĩ* "when, as"

D. PS **ksm* "to cut"

IE **kes-* (**ĝes-*) "to cut"

Hebr. *kāsam* "to shear, clip"
Ug. *ksm* "to cut"
Akk. *kasāmu* "to cut in pieces"

PS **ksĥ* "to cut off, away"

Skt. *śásati* "to cut down, kill,
slaughter"
Lat. *castrō* "to castrate"
Gk. *κεάζω* "to split, cleave"

Hebr. *kāsaĥ* "to cut off, away"
Ar. *kasāḥa* "to sweep, clean"
< "to cut off, remove,
do away with"

PS **kss* "to cut into pieces,
cut up, divide"

Hebr. *kāsas* "to compute"
Akk. *kissatu* "fodder"

- E. PS **klh* "to call someone by shouting" IE **kel-* (**qel-*) "to call, cry out"
- Eth. *kalha* "to call someone by shouting" Gk. *καλέω* "to call, summon"
Lat. *calō* "to call, summon"
OHG. *halōn* "to call, fetch"
- F. PS **krt* "to cut off, cut down" IE **ker-* (**[s]qer-*) "to cut off"
- Hebr. *kāraθ* "to cut off, cut down"
Akk. *karātu* "to hew off" Skt. *kartati* "to cut, cut off"
Hitt. *kar-aš-zi* "to cut off"
Gk. *κείρω* "to cut off, clip, hew down"
Toch. A *kārṣt-* "to cut up, destroy"
- G. PS **kl?* "to guard, watch, hold" IE **kel-* (**qel-*) "to guard, watch, hold"
- Hebr. *kālā'* "to shut up, restrain, withhold"
Ar. *kala'a* "to guard, watch, protect, preserve"
Akk. *kālu* "to hold"
Eth. *kal'a* "to prevent, forbid"
- H. PS **klm* "to injure" IE **kel-* (**qel-*) "to injure, strike, slay"
- Hebr. *kālam* "to be humiliated"
Ar. *kalm* "wound, cut, slash" Lat. *calamitās* "loss, misfortune, damage, calamity"; *clādēs* "disaster, injury"
Lith. *kalù* "to forge, strike"
- I. PS **kw-* "to heap, pile up" IE **keu-* (**qeu-*) "to heap, stack up, pile up, accumulate"
- Ar. *kāma* "to heap, stack up, pile up, accumulate";
kaum "heap, pile; hill";
kāda "to heap up, pile";
kauda "heap, pile"
Hebr. *kīmāz* "name of a golden ornament (depicting female breasts or pudenda)" Goth. *huhjan* "to heap up"; *hiuhma* "heap, multitude"; *hauhs* "high"
OIce. *haugr* "grave-mound"
OHG. *houc* "hill"
Lith. *kauikas* "swelling, boil";
kaukarà "hill"
Toch. A *koc* "high"
Skt. *kakūbh-*, *kakūd-* "summit, peak"
Lat. *cacūmen* "top, tip, summit, zenith"

- J. PS **krd̥s* "to heap up, crowd together"
 Ar. *kardasa* "to heap up, pile up, crowd together";
takardasa "to be heaped up, piled up; to flock together, crowd together"
- IE **kor-* (**qor-*) "crowd, multitude"
 OIce. *herr* "host, people, army"
 Goth. *harjis* "army, host"
 Mlr. *cuire* "troop, crowd, band"
 Lith. *kārias* "army"; *kāras* "war, warfare"
 IE **kerdo-* (**k̑erdho-s*) "herd, flock, troop"
 Skt. *śārdha-s* "host, troop, multitude"
 Goth. *hairda* "herd, flock"
 Lith. *keṛd̑ius* "herdsman"
 OIr. *croð* "troop"
 Welsh *cordd* "tribe, family"
- 3.34. PS *k'* = IE *k'*:
- A. PS **h̑k'ɫ* "field"
 Ar. *ḥaql* "field"
 Aram. *ḥaqlā* "field"
 Akk. *eq̄lu* "field"
- IE **h̑hak'-ro-* (**aḡ-ro-s*) "field"
 Skt. *ājra-s* "field, plain"
 Gk. *ἀγρός* "field"
 Lat. *ager* "field"
 Goth. *akrs* "field"
- B. PS **k'ny* "to get, acquire"
 Hebr. *qānāh* "to get, acquire"
 Ug. *qny* "to create, produce, bring forth"
 Ar. *qanā* "to get, acquire"
 Akk. *qanū* "to gain, acquire"
 Eg. *qn*, *qn̑* "to be strong, make strong, have power over, possess, overcome"
- IE **k'en-* (**ḡen-*, **ḡenə-*) "to beget"
 Skt. *jānati* "to beget"
 Gk. *γίγνομαι* "to be born"; *γεννάω* "to beget, bear"
 Lat. *genō*, *gignō* "to beget, bear, bring forth"
- C. PS **h̑k'-* "to cut into"
 Hebr. *ḥāq̄aq* "to cut in or on, engrave, inscribe"; *ḥāq̄āh* "to cut into, carve"
- IE **h̑hak'-* (**agwes̑̄*, **agus̑̄*) "to cut into, hew; axe"
 Gk. *ἄξιν* "axe"
 Goth. *aqizī* "axe"
 OE. *æx* "axe"

- D. PS **ḥk'k'* "to decree, command" IE **ḥh₂ak'-* (**aġ-*) "to direct, command"
 Hebr. *ḥāqqaq* "to decree, ordain laws"
 Ar. *ḥaqqā* "to put into aciton, enforce"
 Eth. *ḥəgg* "law"
 Eg. *ḥq, ḥqʿ* "to rule, govern, direct, guide, reign"
 Gk. *ἄγω* "to lead, conduct, guide, rule, direct, command, instruct"
 Skt. *ájati* "to drive"
 Lat. *agō* "to drive"
 Arm. *acem* "to bring, lead"
 Toch. A *āk-* "to lead, conduct"
- E. PS **k'r?* "to call, proclaim" IE **k'er-* (**ger-*) "to cry hoarsely"
 Hebr. *qārā'* "to call, proclaim"
 Ar. *qara'a* "to recite, read"
 Ug. *qrā* "to call"
 Akk. *qerū* "to call to, invite"
 OE. *ceorian* "to murmur, grumble"; *ceorran* "to creak"
 Berb. *ger* "to cry out, call"
 Bilin *qar'* "to read, learn"
- F. PS **k'wš* "to be bent, curved" IE **k'eu-* (**geu-*) "to be bent, curved"
 Ar. *qawisa* "to be bent, curved"; *qaus* "bow"
 Hebr. *qešēθ* "bow"
 Akk. *qaštu* "bow"
 Ug. *qšt* "bow"
 Eth. *qast* "arc"
 Gk. *γῦρός* "round, curved"
 NHG. *Kugel* "globe, sphere"
 OIce. *kūfōttr* "convex"
 Lith. *gugà* "bump, growth"
- G. PS **k'yʃ'* "to crack, burst, break, burst open" IE **k'eī-* (**ġei-*) "to crack, break, burst open"
 Ar. *qāḍa* "to break, crack, split, cleave, burst open"
 OE. *cīnan* "to crack"
 Lett. *ziēdu* "to bloom"
 Goth. *keīnan* "to bud, grow, spring up"
- H. PS **k'm-* "to seize, grasp, press together" IE **k'em-* (**gem-*) "to seize, grasp, press together"
 Hebr. *qāmaṭ* "to seize, press together"; *qāmaš* "to grasp"
 Ar. *qamata* "to bind together, fetter, shackle"
 Gk. *γέμω* "to be full"
 Lett. *gūmstu* "to seize, grasp"
 OE. *cimb, cimbe* "joint"
 OCS. *žbmq* "to press"

- I. Eg. *qm;t* "to lament, moan, groan"; *qmd*, *qmd* "to weep, wail, lament"

IE **k'em-* (**gem-*) "to moan, groan, lament"

Lat. *gemō* "to sigh, groan, lament, bemoan"

3.35. PS *g* (< *g^w*) = IE *g^w*:

- A. PS **gny* "to harm"

IE **g^wen-* (**g^when-*) "to strike, slay, kill, wound, hurt"

Ar. *ḡanā* "to commit a crime, harm, inflict"; *ḡināya* "perpetration of a crime, felony"

Hitt. *ku-en-zi* "to stike, kill"
Skt. *hānti* "to smite, slay, hurt, kill, wound"

Gk. *θαίνω* "to strike, wound"

OIr. *gonim* "to wound, slay"

- B. Eg. *gn.t* "heap, abundance"

IE **g^wen-* (**g^when-*) "to swell, abound"

Skt. *ā-hanā-* "swelling, distended"

Arm. *yogn* (< *i* + **o-g^won-* or **o-g^wno-*) "much"

Gk. *εὐθηνέω* "to thrive, prosper, flourish, abound"

Lith. *ganà* "enough"

3.36. PS *k* (< *k^w*) = IE *k^w*:

- A. PS **kył* "to repay"

IE **k^wei-* (**q^wei-*) "to repay"

Ar. *kāla* "to return like for like, repay in kind"

Gk. *τίνω* "to requite, atone for, repay"; *ποινή* "retribution, penalty"

Av. *kaēnā-* "punishment, revenge"; *čikayat* "to atone for"

- B. PS **kłb* "dog"

IE **k^wel-* (**q^wel-*) "dog"

Hebr. *keleḇ* "dog"

OHG. *hwelf* "whelp, puppy"

Ar. *kalb* "dog"

Lith. *kālė* "female dog, bitch"

Akk. *kalbu* "dog"

Ug. *kłb* "dog"

- C. PS **kyp* "to form, shape, mold, fashion, fit" IE **k^wei-* (**q^wei-*) "to form, fashion, fit"
- Ar. *kāfa* "to form, mold, fit, shape, fashion, adjust, adapt" Skt. *cinōti*, *cāyati* "to arrange in order, heap up, construct, gather, collect"
- Gk. *ποιέω* "to construct, make"
- OCS. *činiti* "to arrange"
- D. PS **k^wy* "to dig" IE **k^wer-* (**q^wer-*) "to plow; field, furrow"
- Hebr. *kārāh* "to dig (a well)" Hitt. *ku-e-ra-aš*, *ku-ra-aš* "field, plain"
- Ar. *karā* "to dig" Lyd. *qīra-* "property, belongings"
- Eth. *karaya* "to dig a hole" Skt. *kārṣati*, *kṣṛāti* "to plow"; *karṣū-s* "furrow"
- Av. *karša-* "furrow"; *karšū-* "field"
- E. PS **kry* "to buy, rent" IE **k^wrei-* (**q^wrei-*) "to buy"
- Hebr. *kārāh* "to buy, purchase" Skt. *krīṇāti* "to buy, purchase"
- Ar. *kariya* "to rent, hire" Gk. *πράμαλ* "to buy, rent"
- OIr. *crenaim* "to buy"
- ORuss. *kronuti*, *krenuti* "to buy"
- Toch. A *kuryar* "commerce"

3.37. PS *k'* (< *k'w*) = IE *k^w*:

- A. PS **k'rtēš* "to praise" IE **k^wer-* (**q^wer[ə]-*) "to praise"
- Ar. *qaraḥa* "to praise, commend, laud, extol, acclaim" Skt. *grṇāti* "to praise, extol"
- Lith. *giriù* "to praise, commend"
- Lat. *grātus* "pleasing, welcome, agreeable"; *grātēs* "thanks"
- OHG. *queran* "to sigh"
- B. PS **k'yḥ* "to fester, be purulent" IE **k^wei-* (**q^wei-*) "to be foul, putrid"
- Ar. *qāḥa* "to fester, be purulent" Gk. *δεῦσα* "slime, filth"
- OIce. *kveisa* "boil, whitlow"
- OCS. *židvko* "succosus"

PS *k'y? "to vomit"

Hebr. qā' "to vomit up"

Ar. qā'a "to vomit"

Akk. qā'u "to spit"

Eg. qṣ, qṣṣ "to be putrid,
foul; to vomit; corrup-
tion"; qṣ' "to vomit";
qṣ'w "vomit"

C. Eg. qm "to bring to an end,
complete"

IE *k^wem- (*g^wem-) "to come,
go" < "to approach toward
or arrive at a goal"

Gk. βαίνω "to go, walk"

Skt. gāmati "to go, move, set
out, come, approach, go
to or towards"

Lat. veniō "to come"

Goth. qīman "to come"

Toch. A kām- "to come"

3.38. PS x (< x^p < ḫ) = IE ḫh (< ḫ):

A. PS *xrk' "to tear, rend, break
apart"

IE *ḫork'- (*org-) "to tear,
rend, break apart"

Ar. ḥaraqa "to tear, rend,
break apart"

Hitt. ḥar-ak-zi "to be destroyed"

Hebr. ḥāraq "to grate"

Arm. harkanem "to split, fell"

OIr. orgaim "to slay"

B. PS *xrts' (< *ḫrk') "to be
yellow; gold"

IE *ḫhark'- (*arġ-) "to glisten"

Hebr. ḥārūṣ "gold"

Skt. ārjuna-s "white, light"

Akk. ḥurāṣu "gold"

Gk. ἀργός "glistening, white"

Ug. ḥrṣ "gold"

Hitt. ḥar-ki-iš "white"

Ar. ḥurṣ, ḥirṣ "earring"

Lat. argentum "silver"

Arm. arcat' "silver"

Toch. A ārki "white"

C. Eg. ḥnt "face, front part; in
front of"; ḥntw (adv.)
"before"

IE *ḫhant-s (*ant-s) "front";
*ḫhanti (*anti) "in front of,
before"

Skt. ānti "before"

Hitt. ḥa-an-za "front"; ḥa-an-ti
"in front of, before"

- Gk. ἄντι "opposite"
Lat. *ante* "before"
- D. Eg. *ḥpī* "to go, travel, march, sail (of a boat), fly away (of birds), flow (of water)"; *ḥpī* "flowing"
- IE **h₂hap-* (**ap-*) "to flow"
- Hitt. *ḫa-pa-a* "river, stream"
Pal. *ḫa-a-ap-na-aš* "river, stream"
Skt. *āpas-* "water"
Lat. *amnis* (< **ab-nis*) "river, stream"
OPruss. *ape* "river, stream"
Toch. B *āp* "water, river, stream"

3.39. PS *ʕ* = IE *ʕh* (< *ʕ*):

- A. PS **ʕgl* "young of an animal"
- Ar. *ʕġl* "calf"
Hebr. *ʕeḡel* "calf"
Akk. *agalū* "calf"
Ug. *ʕl* "calf"
Eth. *ʕəwəl* "young of animals"
Amh. *gəlgəl* "young of domestic animals; cub, kid"
- IE **ʕhag-* (**aġh-*) "with young (of an animal)"
- Skt. *aḥī* "cow"
Av. *azī* "with young (of cows or mares)"
Mir. *ag* "ox, cow"; *ál* (< **aglo-*) "litter, brood"
- Eg. *ʕ-*, *ʕn-* prefix placed before several words dealing with cattle
- B. PS **ʕtkʼ* "to move, proceed, advance"
- IE **ʕhat-* (**at-*) "to move, proceed, advance (in years)"
- Hebr. *ʕəṯeq* "to move, proceed, advance (in years)"
Akk. *etēqu* "to pass through"
Ar. *ʕatuqa* "to grow old, age, mature"
Ug. *ʕtq* "to proceed, pass through"
- Skt. *átati* "to go, walk, run"
Lat. *annus* (< **atnos*) "year"
Goth. dat. pl. *aþnam* "year"
- C. Eg. *ʕm* "to grasp; fist"
- IE **ʕham-* (**am-*) "to grasp"
- Skt. *ámatra-m* "drinking vessel"
Lat. *ampila* "handle"
Arm. *aman* "vessel, container"

- D. PS **ǵlw* "to be high, elevated; to rise high; to exceed, surpass; to grow" IE **ǵhal-* (**ał-*) "to be high; to grow"
- Ar. *ʿālā* "to be high, elevated, rise high; to exceed, surpass"
- Lat. *alō* "to nourish, support"; *altus* "grown, great, high"
- Hebr. *ʿālāh* "to go up, ascend, climb; to spring up, grow"
- OIr. *alim* "to rear"
- Akk. *elū* "to go up"
- Goth. *alan* "to grow"; *alds* "age, life"
- Ug. *ʿly* "to ascend, climb up"
- Eth. *ʿalawa* "to exceed"
- Eg. *ʿr* "to ascend"; *ʿrʿr* "to rise up, go up, ascend"
- E. Eg. *ʿwn* "to sleep, slumber" IE **ǵhau-* (**au-*) "to sleep"
- Gk. *ἰαύω* "to sleep, pass the night"; aor. *ἄεσα* "to sleep"
- Arm. *aganim* "to spend the night"
- Skt. *vāyati* "to become tired, weary"
- F. Eg. *ʿn* "to turn, return, repeat"; *ʿn* "again, on the contrary"; *ʿnn* "to return, turn back"; *ʿnʿn* "to turn back, contradict" IE **ǵhan-* (**an-*) "on the other hand"
- Skt. *anyā-s* "other, different"; *ántara-s* "different"
- Goth. *anþar* "other"
- Lith. *antras* "second"
- G. Eg. *ʿwt* "sheep and goats, animals, flocks" IE **ǵhowi-* (**owi-s*) "sheep"
- Skt. *ávi-s* "sheep"
- Lat. *ovis* "sheep"
- Gk. *όῦς, οἷς* "sheep"
- Arm. *hov-iw* "shepherd"
- OIr. *oí* "sheep"
- OE. *ēow* "sheep"
- Lith. *avìs* "sheep"
- Luw. *ḫa-a-ú-i-iš* "sheep"
- H. PS **ǵwip* "to fly; bird" IE **ǵhawī-* (**awi-s*) "bird"
- Ar. *ʿāfa* "to fly about"
- Skt. *vī-s* "bird"
- Hebr. *ʿūḡ* "to fly"; *ʿōḡ* "fowl, birds"
- Arm. *hav* "bird"
- Lat. *avis* "bird"
- Ug. *ʿp* "to fly"
- Eth. *ʿōf* "bird"

Eg. *ʿpī* "to fly"

- I. PS **ʕt*'- "to smell" IE **ʕot*'- (**od*-) "to smell"

Ar. *ʿatīra* "to perfume, scent";
ʿatīr "sweet-smelling,
 fragrant"; *ʿatīna* "to
 rot, decay, putrefy";
ʿatīn "putrid, rotten,
 stinking"

Arm. *hot* "smell, odor"
 Gk. *ὄζω* "to smell"
 Lat. *odor* "smell, odor"
 Lith. *uodžiu* "to smell"

3.40. PS *ḥ* = IE *ḥh* (< *h*):

- A. PS **ḥng* "to be narrow, con-
 stricted; throat, larynx" IE **ḥhang*- (**anġh*-) "to be narrow;
 to choke, strangle"

Ar. *ḥanġara* "larynx, throat"

Eg. *ḥng* "to be narrow, con-
 stricted"; *ḥngg* "throat,
 gullet"

Berb. *anġa* "palate"

Skt. *anġu*-s "narrow"
 Gk. *ἄγχω* "to strangle"
 Lat. *angō* "to strangle, throttle"
 Goth. *aggwus* "narrow"

- B. PS **ḥlm* "to be healthy, strong" IE **ḥhal*- (**al*-) "to be healthy"

Hebr. *ḥālam* "to be healthy,
 strong"

Gk. *ἀλθεῖν*, *ἀλθαίνειν* "to become
 whole, sound"; *ἀλθαίνω* "to
 heal"

- C. Eg. *ḥshs* "to be hot, burn;
 fire, flame"; *ḥss* "heat,
 flame, fire"

IE **ḥhas*- (**ās*-) "to burn, glow,
 be hot"

Hitt. acc. *ḥa-aš-ša-an* "hearth"
 Lat. *āra* "altar"
 Skt. *āsa*-s "ashes, dust"
 Gk. *ἄζω* "to be dry"
 OIce. *aska* "ashes"

- D. Eg. *ḥr* "for, because, with,
 and, therefore, more-
 over"; *ḥr*' "with, and"

IE **ḥhar*- (**ar*, **r*) "then, there-
 fore, and"

Gk. *ἄρα*, *ἄρ*, *ῥα* "then, therefore"
 Lith. *ar* "whether, if"; *iṛ* "and,
 and then, and so"

- E. Eg. *ḥwr* "a mass of water";
ḥw? "moisture, water;
damp" IE **ḥ₁wer-* (**wer-*) "water"
Hitt. 3 pl. *ḥur-na-an-zi* "to
sprinkle"; *ḥur-na-a-iš*
"spray"
Skt. *vāri* "water"
Av. *vairi-* "lake"; *vār-* "to rain"
Toch. A *wār* "water"
Gk. οὔρον "urine"
Lat. *ūrīna* "urine"
OE. *wæ* "spray"
OIce. *ver* "sea"
- F. Eg. *ḥr* "to arrange, set in or-
der, array" IE **ḥ₁har-* (**ar-*) "to arrange,
set in order"
Av. *arānte* "to arrange, settle,
establish, fix"
Skt. *ṛtá-s* "fixed time, order,
rule"; *ṛtá-s* "right, true";
ṛtī-s "way, manner"
Arm. *arēm* "to make"
Gk. ἀραρίσκω "to join together,
fasten, fix"
Lat. *ars* "way, method, skill,
profession, art, occupa-
tion"
- G. PS **ḥrk* "to set in motion,
propel" IE **ḥ₁harku-* (**arqu-*) "arrow, bow"
Goth. *arhwazna* "arrow"
OE. *earh* "arrow"
Lat. *arcus* "bow"
Ar. *ḥaraka* "to move, set in
motion, propel"; *ḥarik*
"lively, active, brisk"
Hebr. *ḥāraḥ* "to set in motion,
start"
- H. PS **ḥm?* "to be sour" IE **ḥ₁ham-* (**am-*, **om-*) "sour"
Hebr. *ḥāmēš* "to be sour"
Ar. *ḥamuḍa* "to be or become
sour"
Ug. *ḥmš* "vinegar"
Amh. *homtatta* "sour"
Skt. *amlá-s* "sour, acid"
Gk. ὠμός "raw"
Arm. *hum* "raw"
Lat. *amārus* "bitter"
Eg. *ḥm?* "salt"
Beja *hami* "to be sharp, acid"

- I. PS **h₁nn* "to feel tenderness for"
 Hebr. *hānan* "to show favor, be gracious"
 Ar. *hanna* "to feel tenderness, affection, sympathy"
 Ug. *hnn* "to pity"
 Akk. *enēnu* "to show favor"
- IE **h₁hans-* (**ans-*) "to feel well-disposed to, kind, affectionate, favorably inclined"
 Goth. *anstis* "favor, grace"
 Gk. *πρὸς-ἡνής* "gentle, kind, soft"
- J. PS **h₁rr* "to be noble, free-born"
 Hebr. *hōr* "noble"
 Ar. *hurr* "noble, free-born"
 Ug. *hrr* "free-born"
 Eth. *hara*, *harawi* "free man"
- IE **h₁haryo-* (**aryo-s*) "free-born, noble"
 Skt. *ārya-s* "a respectable or honorable person"; *ārya-s* "master, lord"
 OIr. *aire* "nobleman"
- Eg. *hry* "chief, master, overseer, superior"; *hr* "on, upon, over"; *hrw* "upper part"
- K. PS **h₁wk* "to weave, braid, plait"
 Ar. *hāka* "to weave, braid, plait"
- IE **h₁hau-* (**au-*) "to weave"
 Lith. *āusti* "to weave"
 Skt. inf. *ótum*, *ótave* "to weave"
- IE **h₁hweE-* (**wē-*) "to weave"
 Skt. *vātave* "to weave, braid, plait"; *vāna-m* "the act of weaving"
 Hitt. *ú-e-iḫ-zi* "to turn, fall"
- IE **h₁hwei-* (**wei-*) "to weave, plait, braid, twist, turn"
 Skt. *vāyati* "to weave, braid, plait"
 Lat. *vieō* "to weave together"
 Lith. *vejù* "to twist"
- IE **h₁hweb-* (**webh-*) "to weave"
 OHG. *weban* "to weave"
 Toch. B *wāp-* "to weave"
 Gk. *ὠφή* "a web"

- L. PS **hgb* "to cover, hide, conceal"
 Ar. *ḥaḡaba* "to cover, hide, conceal, obscure"
 Hebr. *ḥāḡāḇ* "locust, grasshopper"
- IE **h₂hag-* (**aghlu-*) "to cover, obscure; dark cloud"
 Gk. ἀχλύς "mist, gloom, darkness"
 OPruss. *aglo* "rain"
- 3.41. PS $\text{r} = \text{IE } \gamma$ ($< \gamma^D < \text{r}$):
- Eg. 'rt "a kind of bird"
 IE **yer-* (**er-*, **or-*) "bird"
 Hitt. *ḫa-a-ra-aš* "eagle"
 Gk. ὄρνις "bird"
 Goth. *ara* "eagle"
- 3.42. PS $\text{h} = \text{IE } x$ ($< x^D < \text{h}$):
- A. PS **h₂nk* "to reach, come to, arrive at, become experienced"
 Ar. *ḥanaka* "to make experienced, wordly-wise, sophisticated"; *ḥunk*, *ḥink*, *ḥunka* "wordly experience, sophistication"
 Hebr. *ḥānaḥ* "to train, teach, educate"
 Eg. *ḥnk* "to make an offering, offer, present, be burdened"; *ḥnk*, *ḥnkt* "offerings"
- IE **xenk-* (**en^hk-*) "to reach, come to, arrive at"
 Hitt. *ḫi-in-ik-zi* "to present, deliver, offer, allot"
 Gk. ἐνεγκεῖν "to bear, convey"
 Skt. *aśnóti* "to reach, come to, arrive at, get, gain, obtain; to master, become master of; to offer"
 Lat. *nancior* "to get, gain, obtain"; *nanciscor* "to obtain, get, receive, meet"
 Toch. B *eñk-* "to seize, take"
 Lith. *nėšti* "to carry, bear"
 OCS. *nesti*, *nositi* "to carry, bear"
- B. Eg. *mḥ* "cubit, forearm"
 IE **mex-* (**mē-*) "to measure, mark off, measure off"
 Skt. *māti* "to measure, mete out, mark off"
 Lat. *mētior* "to measure"
 Hitt. *me-ḫur* "time"

3.43. PS ? = IE ?:

- A. PS *ʔrʔ' "earth" IE *ʔer- (*er-) "earth"
- Hebr. 'ereṣ "earth"
 Ar. 'ard' "earth"
 Akk. irṣitu "earth"
 Ug. arṣ "earth"
 Aram. 'ar'ā "earth"
 Phoen. 'rṣ "land"
- Gk. ἔρᾱ "earth"
 Goth. airþa "earth"
 OHG. ero "earth"
 Welsh erw "field"
- B. PS *ʔun "to be at rest" IE *ʔeunaA (*eunā) "resting place"
- Ar. 'āna "to be at rest";
 'aun "serenity, calmness"
 Hebr. 'ōn "vigor, wealth"
- Gk. εὐνή "the place where one beds down (usually in reference to soldiers or animals)"
- C. PS *ʔsp "to gather, harvest" IE *ʔes- (*es-en-, *os-en-) "harvest-time"
- Hebr. 'āsaφ "to gather, collect, remove"; 'āsīφ "harvest"
 Akk. esēpu "to gather, collect"
 Ug. āsp "to gather"
 Phoen. 'sp "to be gathered in"
- Goth. asans "harvest, summer"
 OHG. aran "harvest"
 OCS. jesenb "autumn"
 OPruss. assanis "autumn"
- Eg. šḥ "to reap; sickle"
- D. PS *m?- "to be many; to increase" IE *me?- (*mē-, *mō-) "abundant, considerable"
- Hebr. mē'ōḥ "abundance"; mē'āh "hundred"
 Akk. ma'ādu "to be many; to increase"; mu'du "abundance"
 Ar. mi'a "hundred"; ma'ada "to increase, grow"
 Ug. mūd "abundance"; mīd "much, many"; mīt "hundred"
- OIr. mār "great"
 Osc. mais "more"
 Goth. mais "more"
- E. Eg. inī "to bring, convey, fetch" IE *ʔonos- (*onos-) "brought, conveyed"
- Skt. ānas- "cart"
 Lat. onus "load, burden, freight"

- F. PS *ʔn- "to become ripe, mature"
 Ar. 'anā "to mature, become ripe"; 'anan "(span of) time, period"
 Hebr. 'ānāh "to be opportune; "to meet or encounter opportunity"

IE *ʔen- (*en-) "year"
 Gk. ἔνος "year"

3.44. PS h = IE h:

- A. PS *h₁y- "to kindle, excite"
 Ar. hāḡa "to kindle, ignite, inflame; to excite, stir up, agitate"; hāša "to be agitated, excited"

IE *h₁ai- (*ai-), *h₁aid- (*aidh-)
 "to kindle, light, set on fire"
 Skt. indhāte "to kindle, light, set on fire"; édhās- "fuel, kindling"
 Gk. αἴσω "to light up, kindle; to burn, blaze"
 Lat. aestās "summer"
 OE. ād "fire, flame; funeral pile"

- B. PS *h₂rb "to liberate, free"
 Ar. harāba "to liberate, free; to flee, escape"
 Akk. arbu "fugitive, runaway"

IE *har- (*ar-) "to free, liberate"
 Hitt. a-ra-wa-aḫ-ḫi "to make free"
 Lyc. arawā "exempt from tax or duty"; ἑρεῦας (*erewa-) "free(-city)"

- C. PS *h₃pk "to turn back, about, away; to overturn"
 Hebr. hāḡaḡ "to turn, turn back, turn about, turn away; to overturn"
 Ug. ḥpk "to overturn"
 Phoen. ḥpk "to overturn"

IE *h₃apo (*apo) "(turned) away, back"
 Hitt. a-ap-pa "afterwards, back, again"
 Gk. ἄπο, ἀπό "off, away, back"
 Skt. āpa "away, forth, back"
 Goth. af "of, from, by, away from"
 Lat. ab "away from"

- D. PS **h₁l* "to shine, be bright" IE **hal-bo-* (**al-bho-s*) "white; white cloud"
- Hebr. *hālāl* "to shine"
 Ar. *halla* "to shine, gleam, glow"
 Akk. *elēlu* "to be bright"; *ellu* "bright"
- Hitt. *al-pa-aš* "cloud"
 Lat. *albus* "white"
 Gk. ἀλφός "whiteness; white leprosy"
- E. PS **h₂wy* "to want, desire" IE **hau-* (**au-*) "to want, desire"
- Hebr. *hawāh* "desire"
 Ar. *hawīya* "to love, desire"; *hawan* "love, desire, affection, longing"
 Ug. *hwy* "to want, desire"; *hwt* "wish, desire"
- Skt. *dvati* "to be pleased, strive for"
 Lat. *aveō* "to long for, desire"
- F. Eg. *hq* "to oppress, inflict pain, diminish"; *hqs* "to defraud" IE **hak'-* (**ag-*) "to inflict pain, wrong, offend, injure"
- Skt. *āgas-* "transgression, sin, offense, injury, fault"
 Gk. ἄγος "curse, guilt, pollution"
 OE. *acan* "to ache"
- 3.45. PS $\gamma =$ IE γ :
- A. PS **h₂w/γ* "to live, be alive" IE **h₂haiw-*, **h₂hayu-* (**aiw-*, **ayu-*) "to live, be alive"
- Hebr. *hāyāh* "to live"
 Ar. *hayya*, *hayiya* "to live"
 Ug. *hy* "to be alive"
 Eth. *haywa* "to heal"
 Tigre *haya* "to live"
- Skt. *āyú-s* "alive"
 Gk. αἰών "lifetime, age"
 Lat. *aevum* "lifetime"
 Goth. *aiws* "time, lifetime, age"
- B. PS **?y-* "which?" IE **?yo-* (**yo-s*) "which"
- Ar. *'ayy* "which?, what?"
 Hebr. *'ay* "where?"
 Akk. *ayyu* "who?, what?"
 Ug. *iy* "where?"
 ESA *'y* "which?"
 Eth. *'ay* "which?"
- Skt. *yá-s* "which"
 Gk. ὅς, ἧ, ὅ "which"
 Phryg. *uos* "whoever"

- C. PS *ʔyn "to come, approach" IE *ʔei- (*ei-) "to go"
- Ar. 'āna "to come, approach" Skt. émi "to go"
Gk. εἶμι "to go"
Eg. ʔi "to come" Lat. eō "to go"
Berb. ayu "to come" OLith. eĩmi "to go"
Beja yi', i' "to come"
- IE *ʔyah- (*yā-) "to go"
- Skt. yāti "to go, proceed"
Hitt. i-ya-at-ta(-ri) "to go"
- 3.46. PS w = IE w:
- A. Eg. wy "I" IE *wei- (*wei-) "we"
- Hitt. ú-i-e-eš "we"
Skt. vayám "we"
Goth. weis "we"
Luw. 1st sg. ending -wi
- B. PS *ʔw "or" IE *ʔwe (*-we) "or"
- Hebr. 'ō "or"
Ar. 'au "or"
Akk. ū "or"
Eth. 'au "or"
Ug. ū "or"
- Skt. -vā "or"
Lat. -vĕ "or"
Gk. ῥ-(F)έ "or"
- C. PS *wdy "to kill, destroy" IE *wed- (*wedh-) "to slay, kill"
- Ar. wadā "to kill, destroy" Skt. vadhati "to strike, slay,
kill, destroy"
Gk. ἔδων "pushing, shoving"
Lith. vedegà "a type of axe"
OPruss. wedigo "carpenter's axe"
- D. PS *t'wl "to become long" IE *t'eu- (*deu-, *dewə-, *dwā-,
*dū-) "to make long, stretch
out"
- Ar. tāla "to become long"
Hebr. tūl "to hurl, cast"
- Skt. dū-rá-s "far, distant"
Gk. (adv.) ὅν "long"
Lat. dūrō "to last, continue"
Hitt. tu-u-wa "to a distance,
afar"
- Eg. dwn "to stretch out, ex-
tend, reach out"
Saho ḍel "to be long"

- E. PS **wai* "woe!, shame!" IE **wai* (**wai*) "woe!"
 Ar. *wai* "woe!, shame!" Lat. *vae* "alas!, woe!"
 Har. *wāy* "woe!, misery!" Arm. *vay* "woe!"
 Ug. *w-* "woe!" Goth. *wai* "woe!"
 Akk. *ai* "woe!"
 Eg. *wy* "woe!"
- F. Eg. *wrš* "to watch, observe"; IE **wer-* (**wer-*) "to guard,
wršt "watch, vigil"; *wrh* watch"
 "to guard, protect"
 Goth. *wardja* "guard"
 OE. *warian* "to beware, warn,
 guard"; *wær* "cautious,
 wary"
 OHG. *wartēn* "to guard, watch"
 Lett. *vērt* "to look at, notice"
 Lat. *vereor* "to be afraid, be
 anxious"
 Hitt. *ú-e-ri-te-ma-aš* "anxiety"
- 3.47. PS *m* = IE *m*:
- A. Eg. *m}* "to reap, harvest" IE **me?-* (**mē-*) "to mow, reap"
 Gk. *ἀμάω* "to reap"
 OE. *māwan* "to mow"
- B. Eg. *mtt* "middle"; *mtw* "with" IE **met-* (**met-*) "with, among"
 Gk. *μετὰ* "in the midst of, among"
 Alb. *mjet* "middle"
 Goth. *miþ* "with, among"
 Av. *mat* "with"
- C. PS **mll* "to wear away" IE **mel-* (**mel-*) "to wear away"
 Hebr. *mālāl* "to rub, scrape" Hitt. *ma-al-la-i* "to grind"
 Ar. *malla* "to become tired, Skt. *mṛāti* "to crush, grind";
 weary, bored" *mṛdū-s* "soft, tender, mild"
 Gk. *ἀμαλδύνω* "to soften"; *μαλακός*
 "soft"
 Lat. *molō* "to grind"; *mollis*
 "soft, tender, mild, weak"
 Goth. *malan* "to grind"
 Lith. *malù* "to grind"

- D. PS **mny* "to divide, portion out, count" IE **men-* (**men-*) "to think, reflect, remember"
- Hebr. *mānāh* "to count, reckon; part, portion"
 Akk. *manū* "to count, reckon"
 Ar. *manā* "to assign, apportion"
 Ug. *mnt* "part, portion"
- Skt. *mānyate* "to think, reflect"
 Gk. *μυνηστω* "to remember"
 Goth. *munan* "to think"
 Lith. *minū* "to think of, remember"
 Lat. *meminī* "to remember"; *moneō* "to remind"; *mēns* "mind"
- E. PS **mn̥* "to detain, hold back" IE **men-* (**men-*) "to stay, remain"
- Hebr. *māna'* "to withhold, hold back"
 Ar. *mana'a* "to stop, detain"
- Eg. *mn* "to remain"
 Galla *manā* "house"
- Gk. *μένω* "to stay, remain"
 Lat. *maneō* "to stay, remain"
 Av. *man-* "to remain"
- F. PS **mr̥?* "to be manly, virile" IE **mer-yo-* (**mer-yo-*) "young man"
- Ar. *maru'a* "to be manly"; *marī'* "manly, virile"
 Ug. *mr* "master"
 Aram. *mārē* "lord"
 Akk. *māru* "son"
- Skt. *mārya-s* "young man"
 Gk. *μειραξ* "lad"
- G. PS **mā* "not" IE **mē* (**mē*) "not"
- Ar. *mā* "not"
 Eg. *m* "not"
- Skt. *mā* "not"
 Gk. *μή* "not"
 Arm. *mi* "not"
 Toch. A *mā* "not"
- H. PS **mr̥?* "to be sick" IE **mer-* (**mer-*) "to die"
- Ar. *marīda* "to fall ill, be sick"
 Ug. *mr̥* "to be sick"
 Akk. *marāṣu* "to be sick"
 Hebr. *māraṣ* "to be sick"
- Skt. *mārate* "to die"
 Hitt. *mi-ir-zi* "to die"
 Lat. *morior* "to die"
 Lith. *mir̥ti* "to die"
- Eg. *mr* "to be sick, suffer pain; to die; dead; death"; *mr̥t* "sickness, illness, fatal disease"

- I. PS **mt'-* "to expand, stretch" IE **met'-* (**med-*) "to measure"
- Ar. *maṭṭa* "to expand, stretch, lengthen"; *maṭāla* "to expand, draw out, lengthen, stretch"
- Goth. *mitan* "to measure"
Gk. μέδομαι "to provide for, be mindful of"
Lat. *meditor* "to consider"
- J. PS **mł?* "to fill, be full" IE **mel-* (**mel-*) "to be full; much, many"
- Hebr. *mālē* "to fill, be full"
Ar. *mala'a* "to fill, become filled, be full"
Akk. *malū* "to fill, be full"
Ug. *młā* "to fill, become filled"
Har. *māla'a* "to fill, fulfill"
- Lat. *multus* "many"
Gk. μάλα "very, very much"; μάλλον "more"
Lett. *mīlns* "very much"
- IE **melg-* (**melgh-*) "to make full, become filled"
- Skt. *malhā-s* "having teats in the dewlap"
Arm. *małj* "gall, bile"
Lett. *melzu* "to swell, fester"
- K. Eg. *ḥmm* "to seize, grasp" IE **?em-* (**em-*) "to take, obtain"
- Beja *amit*, *amid* "to seize"
Hausa *am* "to seize"
- Lat. *emō* "to buy, purchase"
Lith. *imū* "to take"
- L. PS **mw-* "water" IE **meu-* (**meu-*) "to flow, be wet, damp, moist"
- Hebr. *mayim* "waters"
Akk. *mū* "water"
Ug. *my* "water"
Ar. *mā'* "water"
Eth. *may* "water"
- Skt. *mūtra-m* "urine"
Mlr. *mūn* "urine"
Lith. *māudyti* "to bathe"
Gk. μυδάω "to be damp, clammy"; μύρω "to flow"
- Eg. *mw* "water"; *mw* "to flow, be watery"; *mwyt* "urine"
- M. PS **mr̥x* "to anoint, rub with fat or oil" IE **(s)mer-* (**[s]mer-*) "to smear, anoint, rub with fat or oil"
- Hebr. *mārah* "to rub"
Ar. *marāḥa* "to oil, anoint, rub"
Ug. *mr̥ḥ* "to spread over"
Akk. *marāḥu* "to rub"
- Gk. μυρίζω "to anoint, rub with ointment"; μύρον "ointment"
Welsh *mer* "marrow"
OE. *smierwan* "to anoint"; *smeoru* "grease, fat"

- PS **mr̥s* "to rub, anoint"
- Ar. *marā'a* "to rub, anoint"
- Eg. *mr̥h* "to anoint, rub with fat or oil"
- N. Eg. *mr* "any body of water: lake, pool, cistern, reservoir, flood, stream, basin, canal"; *mr* "swampy land"
- IE **mor̥i-* (**mor̥i-*) "body of water; lake, sea"
- Lat. *mare* "sea"
- Goth. *marei* "sea"
- Lith. *mārė* "sea"
- OIr. *muir* "sea"
- OSax. *mōr* "marsh"
- O. Eg. *mr* "to bind up, tie together"
- IE **mer-* (**mer-*) "to bind, tie together"
- Gk. *μέρυς* "cord, string, rope"
- OIce. *merð* "fish-trap"

3.48. PS *n* = IE *n*:

- A. PS **h̥ny* "to bend, curve"
- IE **h̥hank-* (**anq-*) "to bend, curve"
- Hebr. *ḥānāh* "to decline, bend down"
- Skt. *āneati* "to bend, curve"
- Ar. *ḥanā* "to bend, curve, twist, turn"
- Gk. *ἀγκών* "curve, bend, elbow"
- Lat. *ancus* "a person with a crook-elbow"
- IE **h̥hank'-* (**ang-*) "to bend, curve"
- Skt. *āṅga-m* "limb"; *āṅgūri-s* "finger"
- Lat. *angulus* "corner, angle"
- OE. *anclēow* "ankle"
- B. PS **?n-* "in, on, from, by"
- IE **?en-* (**en-*) "in"
- Akk. *ina* "in, on, from, by"
- Lat. *in* "in, into"
- Gk. *ἐν, ἐνι, ἐνί* "in"
- Goth. *in* "in"

- C. PS **nky* "to strike, smite" IE **nek-* (**neġ-*) "to slay, smite"
- Hebr. *nāḫāh* "to strike, smite" Lat. *negō* "to kill, slay"
- Ar. *nakā* "to cause damage, harm; to hurt, injure" Skt. *násyati* "to be lost, perish, disappear"
- Ug. *nkt* "victim" Gk. *νέκυσ* "dead body, corpse"
- Eth. *nakaya* "to hurt" OIr. *éc* "death"
- Eg. *nk* "to smite, attack, injure"
- D. PS **ʔan-ā(ku)* "I"; **naḥ-nu* "we" IE **ʔno-s*, **ʔns* (**no-s*, **ns*) "us"
- | | | | |
|-------|---------------|----------------------------|---|
| | Sg. | Pl. | Skt. du. <i>nau</i> , pl. <i>nas</i> "us" |
| | | | Gk. du. <i>νώ</i> "us" |
| Hebr. | <i>'ānī</i> | (<i>'a</i>) <i>naḥnū</i> | Lat. <i>nōs</i> "we, us" |
| | <i>'ānōḫī</i> | | Goth. <i>uns</i> "us" |
| Ar. | <i>'anā</i> | <i>naḥnu</i> | Hitt. <i>an-za-a-aš</i> "us" |
| Akk. | <i>anāku</i> | <i>nīnu</i> | |
| Ug. | <i>'ank</i> | | |
| Eth. | <i>'ana</i> | <i>nəḥna</i> | |
| Eg. | <i>īnk</i> | <i>īnn</i> | |
- E. Eg. *nr* "to be strong, mighty"; IE **ner-* (**ner-*) "man"
- nrw* "strength, power, victory, valor; mighty one"
- Skt. *nár-* "man"; *nárya-s* "manly, strong"
- Gk. *άνήρ* "man"
- Alb. *njer* "man"
- Welsh *ner* "hero"
- OIr. *ner* "strength"
- F. Eg. *nd*, *ndd* "to tie, bind" IE **net'-* (**ned-*) "to tie or bind together"
- Lat. *nōdus* "knot"
- OE. *nett* "net"
- OIr. *nascim* "to bind"; *naidm* "binding, surety"

- A. PS **l̥k*'- "to gather, collect" IE **lek*'- (**leǵ*-) "to gather"
- Hebr. *lāqat* "to gather, pick up, gather up"
 Akk. *laqātu* "to collect, gather" (cf. fn. 17)
 Ar. *laqata* "to gather, pick up, collect"; *laqina* "to gather, infer, teach"
- Lat. *legō* "to ordain, appoint"
 Gk. λέγω "to pick, gather, speak"
- B. PS **l̥w*- "to stain, tarnish, soil" IE **leu*- (**leu*-, **lewo*-, **l̥ū*-) "dirt"
- Ar. *lāta* "to stain, tarnish, soil"; *lauta* "stain, blot, spot"
 Akk. *lu'ū* "to soil, dirty"; *lūtu*, *lu'tu* "dirt"
- Gk. λῦμα "dirt (removed by washing), filth"
 Lat. *lutum* "mud, mire, dirt"
 OIr. *loth* "dirt, filth"
- C. PS **l̥wh* "to shine, gleam; to show, appear" IE **leuk*- (**leuq*-) "to shine, be bright"
- Ar. *lāha* "to appear, show, shine, come into sight"
 Ug. *lh* "to shine, gleam, glimmer"
- Skt. *rócate* "to shine, be bright"
 Gk. λευκός "bright, white"; λεύσσω "to gaze, look at, see"
 Lat. *lūceō* "to shine"
 Goth. *liuhap* "light"
 OE. *lēoht* "light"

3.50. PS *r* = IE *r*:

- A. PS **r̥k*'*b* "to observe, watch, supervise, control" IE **rek*'- (**reǵ*-) "to guide, rule, direct, control"
- Ar. *raqaba* "to observe, watch, supervise, control"
- Lat. *regō* "to guide, direct"
 Gk. ὁρέγω "to reach out"
 Goth. *raih̥ts* "right"
 Skt. *r̥jū*-s "straight, upright, right"
- B. PS **r̥ks* "to bind" IE **rek*- (**reǵ*-) "to bind"
- Hebr. *rāḥas* "to bind"
 Akk. *rakāsu* "to bind"
 Ug. *rks* "to bind"
- Skt. *raśanā* "rope, cord"

- | | |
|---|--|
| <p>C. PS *<i>ḥrtš</i> "to plow"</p> <p>Hebr. <i>ḥāraš</i> "to plow"</p> <p>Ar. <i>ḥarata</i> "to plow"</p> <p>Ug. <i>ḥrt</i> "to plow"</p> <p>Har. <i>ḥarāsa</i> "to plow"</p> <p>Akk. <i>erēšu</i> "to plow, till"</p> | <p>IE *<i>ḥhar-</i> (*<i>ar[ə]-</i>) "to plow"</p> <p>Hitt. <i>ḥar-aš-zi</i> "to plow"</p> <p>Lat. <i>arō</i> "to plow"</p> <p>Gk. <i>ἀρῶ</i> "to plow"</p> <p>Goth. <i>arjan</i> "to plow"</p> |
| <p>D. PS *<i>ʔrx</i> "to hasten, go"</p> <p>Hebr. <i>ʾāraḥ</i> "to go, wander, journey"</p> <p>Akk. <i>arāḫū</i> "to hasten, hurry";
<i>urḫū</i> "road, path"</p> | <p>IE *<i>ʔer-</i> (*<i>er-</i>, *<i>or-</i>) "to go, come, set in motion"</p> <p>Hitt. <i>a-ri</i> "to arrive, come";
<i>a-ar-aš-ki-iš-zi</i> "to arrive"</p> <p>Skt. <i>racḥāti</i> "to go, send"; <i>ṛṇóti</i>
"to arise, move"</p> <p>Lat. <i>orior</i> "to arise"</p> <p>Gk. <i>ὀρνύμι</i> "to stir up"</p> |

3.51. Notes on Morphology:

Both Semitic and Indo-European make use of syntactic cases, reduplication, prefixes, infixes, and suffixes, and vowel gradation. As noted by Meillet (1964:153-4), in both Semitic and Indo-European, the consonants carry the basic meaning of a stem, while the vowels determine morphological function. However, Kurylowicz (1962:13-4) has clearly demonstrated that the details of the Semitic and Indo-European systems of vowel gradation differed greatly. We saw earlier (§1.6) how the Indo-European system was influenced by accentuation.

The vast majority of Semitic roots are composed of three consonants. However, as Moscati (1964:72-5) points out, this may very well be an innovation. Since there is not such a preponderance of triconsonantal roots in the other Afroasiatic languages, it seems likely that Semitic has expanded this type of root at the expense of roots with other than three consonants. According to Benveniste (1935:170-1), the overwhelming majority of Indo-European roots were biconsonantal. These biconsonantal roots could be expanded by the addition of suffixes, to which determinatives and infixes could then be added.

Both Indo-European and Semitic have constraints on root structure sequences. Hopper (1973:§3.2.6) has restated the Indo-European con-

straint laws thus:

1. Each root contains at least one [-checked] obstruent.
2. When both obstruents are [-checked], they must agree in voicing.

The Indo-European root structure constraint laws thus become simply a voicing agreement rule with the corollary that two glottalics cannot co-occur in a root¹⁷. According to Moscati (1964:74-5), Semitic does not permit identical consonants or consonants with the same point of articulation as the first and second consonants in a root.

The following suffixes appear to have similar functions in both Semitic and Indo-European:

1. *y*-suffixes forming adjectives indicating "belonging to" (this same suffix is also used to form the genitive case in the Semitic languages);
2. *t*-suffixes forming abstracts;
3. *m*-suffixes forming adjectives;
4. *n*-suffixes forming both abstracts and adjectives.

4. PREHISTORY OF INDO-EUROPEAN:

4.1. *Pre-Indo-European*:

Now that we have completed comparing the Proto-Indo-European and Proto-Semitic phonological systems and vocabularies, we are in a posi-

¹⁷In Akkadian, "von zwei emphatischen Konsonanten, die in anderen semitischen Sprachen in einem Worte begegnen können, wird...einer dissimiliert, und zwar: $\dot{t} - q/\dot{s} > t - q/\dot{s}$; $q - \dot{s} > k - \dot{s}$; $q - \dot{t} > q - t$ (sog. Geers'sche Regel)..."(cf. Ungnad-Matouš 1969:27). Not only does this provide a neat parallel to the Indo-European constraints, but also it is further evidence that the emphatics were ejectives in Akkadian.

tion to trace the prehistoric development of the Proto-Indo-European phonological system. We shall begin with pre-Indo-European.

The earliest form of pre-Indo-European that can be reconstructed most likely had the following phonemic inventory:

Stops and Affricates:

Voiceless:	p	t	<u>ts</u>	<u>tʃ</u>	<u>tʰ</u>	k	kʷ	(q)	(qʷ)	
Voiced:	b	d	<u>dz</u>	<u>dʒ</u>		g	gʷ	(g)	(gʷ)	
Glottalized:		tʼ	<u>tsʼ</u>	<u>tʃʼ</u>	<u>tʰʼ</u>	kʼ	kʷʼ	(qʼ)	(qʷʼ)	?

Fricatives:

Voiceless:		s	ʃ		h̥	h
Voiced:					ɦ	

Resonants:

Nasals:	m	n	
Rolled:		r	
Lateral:		l	
Glides:	w		y

Vowels:	a	i	u
	ā	ī	ū

Notes:

The voiceless stops and affricates can have nonphonemic aspirated variants.

The earliest change that took place must have been the development of the voiceless and glottalized lateralized affricates into velar stops along the lines suggested by Trubetzkoy (cf. §3.9 and Steiner 1977:40):

<u>*tʃ</u> >	<u>*kʃ</u> >	<u>*kx</u> >	k
voiceless	voiceless	voiceless	voiceless
alveolar	velar	velar	velar
lateralized	lateralized	affricate	stop
affricate	affricate		
<u>*tʃ'</u>	<u>*kʃ'</u>	<u>*kx'</u>	k'
glottalized	glottalized	glottalized	glottalized
alveolar	velar	velar	velar
lateralized	lateralized	affricate	stop
affricate	affricate		

The final change that can be assigned to pre-Indo-European was the loss of the dental affricates through merger with the palato-alveolar affricates:

<u>ts</u> >	<u>tʃ</u>
<u>dz</u> >	<u>dʒ</u>
<u>ts'</u> >	<u>tʃ'</u>

4.2. *Stress Indo-European:*

Pre-Indo-European was followed by the phonemic stress stage of Indo-European, which is the earliest stage of Indo-European proper that can be recovered. This stage was characterized by the phonemicization of a strong stress accent that caused the reduction and elimination of unaccented vowels. This change was the first in a long series of changes that brought about the grammaticalization of what began as a phonological alternation, totally obliterating the earlier, pre-Indo-European patterning -- whatever that may have been -- and which maintained vitality throughout the long, slowly-changing prehistory of the Indo-European parent language itself and even into the early stages of some of the daughter languages. Whether or not this series of changes was influenced by or itself influenced the patterning developing in neighboring languages cannot yet be ascertained with absolute certainty.

What is certain, though, is that the parallels between the systems of vowel gradation found in Indo-European and some of the Caucasian languages, especially the Kartvelian languages, are so close (cf. Colarusso this volume; Gamkrelidze 1967:707f) that coincidence can be all but ruled out. What needs to be determined still is the exact nature, extent, and direction of any influence that may have occurred.

It was probably during the phonemic stress stage of Indo-European that the syllabic resonants came into being. This was also the stage in which some pharyngeal fricatives developed into velar fricatives on the one hand and into uvular stops on the other. It is not possible, however, to state the exact conditions under which these latter changes would have occurred. All that can be said -- and not even this with certainty -- is that they did take place.

Stress Indo-European phonemic system:

Stops and Affricates:

Voiceless:	p	t	<u>t͡ʃ</u>	k	kʷ	(q)	(qʷ)	
Voiced:	b	d	<u>d͡ʒ</u>	g	gʷ	(g)	(gʷ)	
Glottalized:		tʰ	<u>t͡ʃʰ</u>	kʰ	kʰʷ	(qʰ)	(qʰʷ)	?

Fricatives:

Voiceless:	s	ʃ	x		ħ	h
Voiced:			ɣ		ʕ	

Resonants:

Nasals:	m/ṁ	n/ṇ
Rolled:	r/ṛ	
Lateral:	l/ḷ	
Glides:	w/u	y/i

Vowels:	a	i	u
	ā	ī	ū

Phonemic analysis:

- A. Stops, affricates, and fricatives: always nonsyllabic.
- B. Resonants: syllabicity determined by surroundings: syllabic when between two nonsyllabics and nonsyllabic when either preceded or followed by a vowel.
- C. Vowels: always syllabic.

Suprasegmentals:

- A. Stress: applied only to vowels: distribution correlated with grammatical categorization.
- B. Pitch: nondistinctive.

4.3. *Pitch Indo-European:*

Pitch Indo-European phonemic system:

Stops:

Voiceless:	p	t	k	k ^w	
Voiced:	b	d	g	g ^w	
Glottalized:		t'	k'	k' ^w	ʔ

Fricatives:

Voiceless:	s	x	ḥh	h
Voiced:		ɣ	ʕh	

Resonants:

Nasals:	m/ṁ	n/ṇ	
Rolled:		r/ṛ	
Lateral:		l/ḷ	
Glides:	w/u	y/i	

Vowels:

a	i	u
ā	ī	ū

Phonemic analysis: unchanged.

Suprasegmentals:

- A. Stress: nondistinctive.
- B. Pitch: distribution morphologically-conditioned: high pitch is applied to morphologically-distinctive vowels, and low pitch is applied to morphologically-nondistinctive vowels.

Notes:

- A. The vowels *a* and *ā* have front allophones under high pitch and back allophones under low pitch.
- B. The palato-alveolar affricates are eliminated through occlusivization and merger with the dental stops. At the same time, the palato-alveolar sibilant merges with the dental sibilant:

$\underset{(\cdot)}{t\check{s}}$	>	t
$\underset{(\cdot)}{d\check{z}}$	>	d
$\underset{(\cdot)}{t\check{s}'}$	>	t'
$\underset{(\cdot)}{\check{s}}$	>	s

- C. The plain uvulars merge with the plain velars, and the labialized uvulars merge with the labialized velars:

q	>	k	q ^w	>	k ^w
g	>	g	g ^w	>	g ^w
q'	>	k'	q' ^w	>	k' ^w

- D. The pharyngeal fricatives develop into pharyngeal/laryngeal fricatives:

ħ	>	$\underset{(\cdot)}{h\check{h}}$
ʕ	>	$\underset{(\cdot)}{\check{s}h}$

It was probably at the end of the phonemic pitch stage of Indo-European that the Anatolian languages became separated from the main speech community. Proto-Anatolian cannot be derived from either Late Indo-European or Disintegrating Indo-European because changes took place during these periods that are not found in the Anatolian languages:

- A. There is no evidence at all to my mind that Proto-Anatolian had *o*-grade vowels (cf. Bomhard 1976:\$7.3). In every instance where the evidence of the non-Anatolian daughter languages points to an *o* in the parent language, the Anatolian languages have *a*. Therefore, the Anatolian languages must have become separated from the main speech community before the appearance of *o*-grade vowels. *o*-grade vowels became phonemic in Late Indo-European.
- B. Another change that took place in Late Indo-European but that is not found in the Anatolian languages is the palatalization of velars when next to *i̯*, *e̯*, and apophonic *o* and before *y*.
- C. According to Winter (1965b:191f), the sequences *Hu* and *Hi* became *uH* and *iH* respectively when followed by a nonsyllabic. This metathesis accounts for the fact that the weak-grades of *eHu* and *eHi* are *ū* and *ī* respectively in Disintegrating Indo-European. Once the metathesis had taken place in the weak-grade forms, they served as the basis for new full-grade forms. Metathesized and unmetathesized forms are often found side by side in the various daughter languages. A good example is the word for "fire", which has unmetathesized derivatives in Hittite, Tocharian A, and Gothic and metathesized derivatives elsewhere, except for OHG. *fiur*, which points to a Disintegrating IE **peuHri* with secondary full-grade. The Anatolian languages show no trace of laryngeal metathesis.
- D. Finally, the Anatolian languages are isolated in preserving reflexes of several of the laryngeals. The non-Anatolian daughter languages show no trace of laryngeals either initially (except Armenian) or medially. However, the former presence of medial laryngeals is indicated by the fact that they caused the lengthening of preceding short vowels when lost immediately after these vowels and before an immediately following nonsyllabic. This development is found in all of the non-Anatolian daughter languages without exception, clearly pointing to a common innovation in their Indo-European antecedent that is not found in the Anatolian languages.

4.4. *Late Indo-European:*

Late Indo-European phonemic system:

Stops:

Voiceless:	p	t	k	k ^w	
Voiced:	b	d	g	g ^w	
Glottalized:		t'	k'	k' ^w	ʔ

Fricatives:

Voiceless:	s	x	ħh	h
Voiced:		ɣ	ʕh	

Resonants:

Nasals:	m/ṃ	n/ṇ	
Rolled:		r/ṛ	
Lateral:		l/ḷ	
Glides:	w/u	y/i	

Vowels:	e	o	a	i	u
	ē	ō	ā	ī	ū

Phonemic analysis: unchanged.

Suprasegmentals:

- A. Stress: nondistinctive.
- B. Pitch: distribution partially correlated with vowel gradation.

Notes:

- A. Vowel quality replaces accentuation as the primary internal grammatical morpheme as the front and back allophones

of a and \bar{a} became phonemic:

\acute{a}	>	e ; a (when next to \mathfrak{z}_2 and \mathfrak{z}_4)
\grave{a}	>	o
$\acute{\bar{a}}$	>	\bar{e} ; \bar{a} (when next to \mathfrak{z}_2 and \mathfrak{z}_4)
$\grave{\bar{a}}$	>	\bar{o}

- B. g , k , and k' develop palatalized allophones when contiguous with front vowels and apophonic o as well as before y .
- C. $?$, h , x , and γ are lost initially before vowels, while $\underset{h}{\text{hh}}$ > h and $\underset{h}{\text{fh}}$ > h in the same environment.

4.5. *Disintegrating Indo-European:*

It is reasonably certain that the form of Indo-European spoken immediately prior to the emergence of the historically-attested non-Anatolian daughter languages was not a unitary language but, rather, a speech area composed of several closely-related dialect groups (cf. Burrow 1973:12f and Georgiev 1966:382f, for example).

The following changes are common to all of the Disintegrating Indo-European dialects (except where noted):

- A. All laryngeals merge into $/h/$.
- B. $/h/$ (from earlier $/\text{hh}/$ and $/\text{fh}/$) is then lost initially before vowels (except in pre-Proto-Armenian) and medially between an immediately preceding vowel and an immediately following nonsyllabic. This latter change causes the compensatory lengthening of preceding short vowels:

iHC	>	$\bar{i}C$
eHC	>	$\bar{e}C$
aHC	>	$\bar{a}C$
oHC	>	$\bar{o}C$
uHC	>	$\bar{u}C$

- C. The single remaining laryngeal, /h/, is preserved in all other positions. /h/ has a vocalic allophone (/h/) when between two nonsyllabics. This vocalic allophone is the traditional schwa primum.

In a central, innovating dialect area, the labialized velars become (perhaps only partially at first) delabialized and merge with the unpalatalized allophones of the velars. This change brings about the phonemicization of the palatalized velars:

k — k ^w	k' — k' ^w	g — g ^w
↓ x ↓	↓ x ↓	↓ x ↓
c — k	c' — k'	ɟ — g

This change probably began in the ancestor of what became Indo-Iranian and spread outward to pre-Baltic, pre-Slavic, pre-Armenian, and pre-Albanian (cf. Szemerényi 1972:129). The fact that the various satem dialects sometimes show a different treatment for the labialized velars as opposed to the plain velars seems to indicate that the delabialization of the labialized velars may not have been carried through to completion until well after the emergence of the individual daughter languages (cf. Szemerényi 1972:128).

The phonemic system of the Central Dialects of Disintegrating Indo-European may thus be reconstructed as follows:

Stops:

Voiceless:	p	t	c	k	(k ^w)
Voiced:	b	d	ɟ	g	(g ^w)
Glottalized:	(p')	t'	c'	k'	(k' ^w)

Fricative:

Voiceless:	s
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Resonants:

Nasals:	m/ṃ	n/ṇ
Rolled:	r/ṛ	
Lateral:	l/ḷ	
Glides:	w/u	y/i

Vowels:	e	o	a	i	u
	ē	ō	ā	ī	ū

Laryngeal:	h/h̥
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Phonemic Analysis: unchanged.

Suprasegmentals:

- A. Stress: nondistinctive
- B. Pitch: distribution is partially correlated with vowel gradation except in pre-Balto-Slavic, where the distribution is correlated with vowel length (cf. Bomhard 1979:§22 and Shevelov 1964:38-80 and 532-81 for a discussion of the development of accentuation in Slavic).
- C. Quantity: open syllables ending in a short vowel are metrically short, while open syllables ending in a long vowel and closed syllables are metrically long (cf. Lehmann 1952:§2.4).

The most significant difference between the phonemic systems of the Central (*satem*) Dialects and the non-Central (*centum*) Dialects of Disintegrating Indo-European was in the treatment of the plain and labialized velars. In the non-Central Dialects, the labialized velars did not become delabialized, and the palatalized allophones of the plain velars remained subphonemic.

A widespread development was the change of the glottalics into plain voiced stops. In section 1.4, I postulated the following progression: glottalized → creaky voice → full voice:

$$p' \quad t' \quad k' \quad k' \rightarrow \underset{\sim}{b} \quad \underset{\sim}{d} \quad \underset{\sim}{g} \quad \underset{\sim}{g}^w \rightarrow b \quad d \quad g \quad g^w$$

In actual fact, this may be only one of the means by which the glottalics became voiced stops. According to Martinet (1970:§4.28), ejectives can develop first into implosives by a progressive anticipation of the voice of a following vowel. These implosives are then deglottalized, leaving plain voiced stops as the result:

$$p' \quad t' \quad k' \quad k'^w \rightarrow 'b \quad 'd \quad 'g \quad 'g^w \rightarrow b \quad d \quad g \quad g^w$$

In pre-Baltic, pre-Slavic, pre-Celtic, and pre-Albanian, the glottalics may be assumed to have passed through the former progression on their way to becoming plain voiced stops. In pre-Greek, pre-Italic, and pre-Indo-Iranian, the glottalics may be assumed to have first become implosives.

In pre-Greek, pre-Italic, and pre-Indo-Iranian, the voiceless aspirates became phonemic, and the plain voiced stops became voiced aspirates. I follow Gamkrelidze (1976:404), however, in his reinterpretation of Grassmann's Law as a rule of allophonic alternation between aspirates and nonaspirates dating to this period (i.e., late Disintegrating Indo-European) and not a parallel development arising independently in Greek on the one hand and Indo-Iranian on the other. The earliest pre-Greek consonant system may be reconstructed as follows:

p	t	k	k ^w
p ^h	t ^h	k ^h	k ^w h
b	d	g	g ^w
b ^h	d ^h	g ^h	g ^w h
'b	'd	'g	'g ^w

Such a system has a typological parallel in Sindhi (cf. Ruhlen 1976: 268). For pre-Indo-Iranian, the earliest consonant system may have been as follows:

p	t	c	k
p ^h	t ^h	c ^h	k ^h
b	d	ǵ	g
b ^h	d ^h	ǵ ^h	g ^h
'b	'd	'ǵ	'g

With the deglottalization of the implosives and their merger with the unaspirated allophones of the voiced (aspirated) stops, we arrive at a phonological system for the late Disintegrating Indo-European antecedent of Indo-Iranian that is nearly identical to what was reconstructed for Indo-European by the Neogrammarians.

4.6. *Development of the Consonants in the Daughter Languages:*

- A. Tocharian: The plain voiced stops are devoiced, and the glottalized stops are deglottalized (cf. Bomhard 1979:§17):

p	b	(p')	>	p (w)
t	d	t'	>	t (c, ts)
k	g	k'	>	k (ç)
k ^w	g ^w	k' ^w	>	kw/u (k, ç)

- B. Germanic: The voiceless stops become voiceless fricatives. Then, medial (and final) *f*, *θ*, *χ*, *χ^w*, together with *s*, become *β*, *ð*, *γ*, *γ^w*, and *z* respectively except (1) before *s* or *t* and (2) between vowels when the accent falls on the contiguous preceding syllable (Verner's Law). The glottalized stops become deglottalized, and the voiced stops develop fricative allophones. Cf. Bomhard 1979: §13; see also Normier 1977.

p	t	k	k ^w	>	f	θ	χ	χ ^w
b	d	g	g ^w	>	b/β	d/ð	g/γ	g ^w /γ ^w
(p')	t'	k'	k' ^w	>	(p)	t	k	k ^w

- C. Armenian: The voiceless aspirates become phonemic, and the glottalics are deglottalized (cf. Bomhard 1979:§12):

p	t	c	k	>	h (w, Ø), t', s, k'
p ^h	t ^h	k ^h		>	p', t', x
t'	c'	k'		>	t, c, k
b	d	ɟ	g	>	b (w), d, ɟ (z), g (ɣ, ʒ)

It should be noted that the last series may have been voiced aspirated in Classical Armenian and that this pronunciation is currently found in some modern eastern dialects. Moreover, the third series is glottalized in some modern eastern dialects.

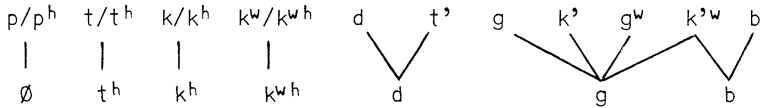
- D. Greek: The voiced aspirated allophones become voiceless aspirates, merging with the already existing voiceless aspirates, and the plain voiced allophones are devoiced and merge with the plain voiceless stops. The implosives then become plain voiced stops. Cf. Bomhard 1979:§16; Hopper 1973:§3.3.2.

p	t	k	k ^w	}	p	t	k	k ^w
b	d	g	g ^w					
p ^h	t ^h	k ^h	k ^{w h}	}	p ^h	t ^h	k ^h	k ^{w h}
b ^h	d ^h	g ^h	g ^{w h}					
'b	'd	'g	'g ^w	>	b	d	g	g ^w

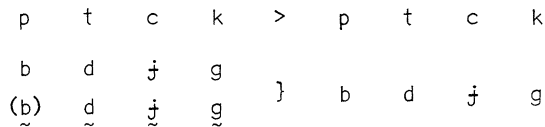
- E. Italic: The voiced aspirates merge with the voiceless aspirates and then develop into the voiceless fricatives *f*, *θ*, *χ*, and *χ^w*. The implosives become plain voiced stops. Cf. Bomhard 1979:§14.

p	t	k	k ^w	>	p	t	k	k ^w
p ^h	t ^h	k ^h	k ^{w h}	}	p ^h	t ^h	k ^h	k ^{w h}
b ^h	d ^h	g ^h	g ^{w h}					
'b	'd	'g	'g ^w	>	b	d	g	g ^w

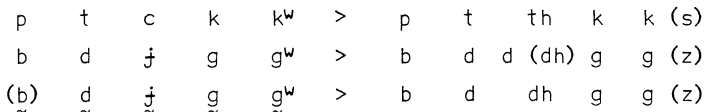
- F. Celtic: The glottalized dental and velar stops merge with their plain voiced counterparts. $k'^w > g^w > b$ initially and medially after consonants but g elsewhere (cf. Bomhard 1979:§14):



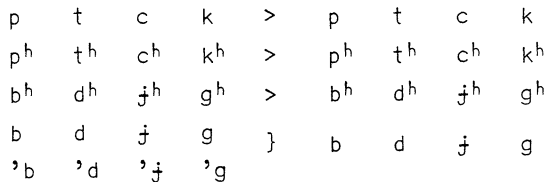
- G. Balto-Slavic: The plain voiceless stops remain, but the glottalized stops merge with the plain voiced stops. $k^h > x$ in Slavic. Cf. Bomhard 1979:§10 and §11; Shevelov 1964.



- H. Albanian: The labialized velars are distinguished from the plain velars before original \tilde{e} and $\tilde{ɛ}$.



- I. Indo-Iranian: The implosives merge with the plain voiced stops. This system remains intact in Indo-Aryan, while in Iranian the plain and aspirated voiced stops merge. Cf. Bomhard 1979:§9; Hopper 1973:§3.3.4.



5. CONCLUDING REMARKS:

The similarities between Indo-European and Afroasiatic are so numerous that the possibility of common genetic origin can no longer be dismissed -- in fact, the data presented in this study compel us to dismiss any other possibility. That is not to say that all questions have been answered, for they have not. The present paper is merely a beginning, a foundation on which to build. There are whole areas (root structure, vocalic patterning, and morphology, for example) that must yet be explored. In due time, these areas will be investigated, and before long the common origin of these two great language families will be an accepted fact.

Wider horizons await us. We cannot assume that our work is done once we have finally proven that Indo-European and Afroasiatic are in fact genetically related. We must consider further relationship to other language families -- a group of gifted Soviet linguists (Dybo, Illič-Svityč, Dolgopoli'skij) has already led the way. Holger Pedersen's theory setting up a great "Nostratic" macrofamily (redefined by Birnbaum [1977:51] to include Indo-European, Afroasiatic, Kartvelian, Uralic, and Altaic), first proposed in 1903 and long looked upon as little more than the fanciful dream of a brilliant mind, is finally on its way to being provable if not yet proven.

* * *

AFTERWORD

There are still those who are opposed to using typological data either to verify the naturalness of our reconstructions or to uncover lost details by means of implicational universals. I think that they are in error. We should not hesitate to use every means at our disposal to help us arrive at realistic reconstructions. That every language that ever was spoken or that ever will be spoken by humankind cannot be included in the typological sample does not invalidate the procedure: it merely means that the typological data must be used judiciously and that our reconstructions can only be tentative.

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TYPOLOGICAL PARALLELS BETWEEN PROTO-INDO-EUROPEAN AND THE NORTHWEST CAUCASIAN LANGUAGES

JOHN COLARUSSO
McMaster University

1. Introduction:

1.1. The Northwest Caucasian language family is one of three language families indigenous to the Caucasus mountain area of the southern U.S.S.R. (cf. Colarusso 1977). The family has three subdivisions: Circassian, with a West and an East sub-group (the latter dominated by the chief language, Kabardian); Ubykh; and Abkhaz-Abaza, split, as the name denotes, into Abkhaz and Abaza sub-groups. The Northwest Caucasian languages are arguably the most bizarre, at least phonologically, of any of the Caucasian languages. On the face of things, one could hardly ask for a less Indo-European set of languages, yet despite this alien aspect overall similarities between Proto-Indo-European and one or more of the Northwest Caucasian languages have been studied before (cf. Hopper 1977a [general Northwest Caucasian]; Colarusso 1975:394-8 and 1977:67-8 [both general Northwest Caucasian]; Allen 1956:172-4 and 1965a [both Abaza]; Kuipers 1960:104-7, 113-4 [Kabardian]).

1.2. Modern phonological and phonetic theory has thrown a great deal of light upon the Northwest Caucasian languages (cf. Colarusso 1975), so that more is known about these languages than was the case a decade ago. Older comparisons between this group and Proto-Indo-

European show only gross typological parallels, many of which do not hold up under close scrutiny. The parallels are there, however, and in fact are very close. They are, however, not as evident as was once thought and are clear only after detailed examination. This paper will make use of our enhanced knowledge of the phonology and phonetics of the Northwest Caucasian languages to examine issues in Proto-Indo-European and to suggest avenues for future research.

2. Usefulness of Typological Studies:

2.1. One may legitimately question the usefulness of typological studies to historical linguistics since clearly one can do historical linguistics without typology, as has been the case for most of the history of Indo-European studies. In a sense typological studies have acquired theoretical importance only as linguistic theory has matured and we have come to have some understanding of what is likely or possible in a language. Even beyond the bounds of modern theory, we find striking, though as yet unexplained, patterns in the world's languages. If reconstructing proto-languages is an effort to retrieve some information about real languages, then it is disturbing when such proto-languages violate these patterns. Moreover, if language reconstruction is viewed as retrieving or reconstructing grammars and rules thereof, then typology backed up by phonological or syntactic theory becomes quite powerful.

2.2. In comparing Proto-Indo-European (PIE) and the Northwest Caucasian (NWC) languages, we have patterns of a simply typological sort, on the one hand, and patterns backed up by elaborate and well-founded phonological theory, on the other. In addition, recent work (Gimbutas 1973a, 1973b, and 1974; Gamkrelidze 1966; Gamkrelidze [Gamkrelidze] and Mač'avariani 1965) have placed the likely PIE homeland just to the north of the Caucasus (Colarusso 1977:67) and have drawn close parallels between PIE and Proto-Kartvelian (the mother language

of Georgian, Mingrelian, Laz, and Svan). Such a PIE homeland would make PIE near, if not contiguous, to Proto-NWC (PNWC). If this work holds up, then typological parallels between PIE and the NWC languages take on the aspect of shared areal features.

2.3. Finally, the PIE laryngeals, as their name suggests, have usually been viewed as "gutturals", i.e., as either velars [+high, +back], in terms of distinctive features (cf. Chomsky and Halle 1968), uvulars [-high, +back], pharyngeals [+constricted pharynx] (Colarusso 1975:219-92, 1978, and in press; Halle and Stevens 1969; Perkell 1972), or true laryngeals [+low] (usually). The NWC languages, exceedingly rich in these segments, offer invaluable typological insights into the phonology, both synchronic and diachronic, of such segments, particularly of the laryngeals and rare pharyngeals (Colarusso 1978). Since we have no hope of finding an Indo-European language in which the phonetic and phonological character of the laryngeals will be evident, such typological work is invaluable if we are to attain a more concrete notion of these sounds and how they worked. For examining such "guttural" segments, the testimony of the NWC languages is crucial. Such a comparison gains greater importance when viewed as part of a set of wider similarities between PIE and the NWC languages, especially with regard to apophony and syllable type. Such general, though detailed, comparison between the two groups is highly rewarding.

3. Proto-Indo-European Source Features:

3.1. Some recent work (Hopper 1973, 1977a, and 1977b; Gamkrelidze 1976; Szemerényi 1967) has viewed the PIE stop system as typologically improbable. The three-way contrast (using the dentals as examples) $*d^h \sim *d \sim *t$ is known in no living language. We should note here, however, that a similar system is necessary in the reconstruction of Proto-Chinese (cf. Karlgren 1940, 1915-26). Karlgren (1940) posits a velar series $*k \sim *k^h \sim *g \sim *g^h \sim *ŋ \sim *h$ (= $*x$?). Cowan (1971:22-3,

85-9) eliminates the voiced series and presents such sets as those in (1).

(1)	<u>item</u>	<u>gloss</u>	<u>Canton</u>	<u>Shanghai</u>	<u>Peking</u>	<u>Proto-Chinese</u>
	24	help	/pōŋ/	/pā̃ŋ/	/paŋ/	*p
	2	all	/phǝu/	/phǔ/	/phǔ/	*p ^h
	41	plate	/phūn/	/bē/	/phán/	*b ^h

The Proto-Chinese system seems to have survived in the Tangsi dialect of Wu Chinese (cf. Kennedy 1952). Furthermore, it may have persisted until recently in Tibetan. Bell (1919:2-4) speaks of a three-way contrast: $t \sim t^h \sim "t"$, with the " t " being pronounced as t , but "through the throat and in a lower tone". The lower tone would suggest lax vocal cords (Halle and Stevens 1971). Lax vocal cords characterize voiced sounds of various sorts. As Bell was familiar with Indo-Aryan languages, one might have expected him to simply call " t " a $/d^h/$ if in fact that was what it was. His book, however, is written for the naive reader, and his locution "through the throat" may have been his way of describing a $/d^h/$. This locution may have been an effort to describe aspiration. Aspiration or opening of the vocal cords combined with voicing produces the murmured or breathy voiced aspirates such as $/d^h/$. We should note that Tibetan has voiced aspirated sonorants: $/m^h, n^h, ŋ^h, r^h, l^h/$, so that the existence of voiced aspirated stops would be likely. We should note too that Bell's language had plain voiced stops. These are absent from the modern language as are the voiced aspirates (cf. Goldstein and Nornang 1970:xiii-xiv), though some modern idiolects have a voiced prenasalized series. In any event, it is possible that the Proto-Chinese source feature system may go back as far as Proto-Sino-Tibetan. Closer to our concerns, some dialects of Eastern Armenian (cf. Vogt 1958:152, 160, 162) also show a Proto-Chinese-like system. From such considerations, it seems that what is odd about the PIE source feature system is not sounds such as $*d^h$ but rather those such as $*d$. It is typologically sound, therefore, that

both Hopper and Gamkrelidze in rewriting the PIE system replace $*d$ with $*t'$. Gamkrelidze goes further and replaces $*d^h$ with $*d$ to produce $*d \sim *t' \sim *t^h$, a common system both in the Caucasus and elsewhere, sometimes showing a plain voiceless series, sometimes an aspirated one. Hopper's system, $*d^h \sim *t' \sim *t/t^h$, is unknown, though in fairness it must be noted that the aspiration of the voiced series is non-distinctive. The very strangeness of Hopper's system is an advantage, however, in that it may explain later shifts to the more usual PIE source feature system, cf. (2).

(2)	<u>Early PIE</u>	<u>Unstable</u>	<u>Later PIE</u>
	$*d$	$*d^h$	$*d^h$ ("dh")
	$*t'$	$*t'$	$*d$
	$*t/t^h$	$*t/t^h$	$*t$
			$*t^h$ ("th")

The unstable system would have driven the language over into its "classic" form, with the addition of voiceless aspirates, while a few marginal dialect areas, notably Germanic and Armenian, would have retained the early PIE form with only slight modifications. The shift of $*t'$ to $*d$ (Hopper 1973, 1977a:43, and 1977b; Gamkrelidze 1976; Gamkrelidze and Ivanov 1972 and 1973) does have a precedent in NWC (cf. Colarusso 1975:82-3). In Kabardian, $/p', t', \dots/$ have "Knarrstimme" or creaky voicing (cf. Kuipers 1960:19-20). In some Abaza dialects, this has given rise to voiced segments in certain positions. Contrast the standard Abaza forms in (3) (Serdjučenko 1956:633) with the Anatolian dialect forms in (4) (Allen 1956 and 1965b). In (4), the standard stative present $/-p'/$ and the active present $/-y-t'/$ are shifted to $/-b/$ and $/-y-d/$ respectively.

(3) Standard Abaza:

- a. $/s-\text{č}^y w a-p'/$ "I sit, I am sitting"
- b. $/s-\text{f}^w y-t'/$ "I write, I am writing"

(4) Anatolian Abaza:

- a. /s-č'ɣwə-b/ (same as 3a)
- b. /s-ɬʷ-y-d/ (same as 3b)

Voiced aspirates are absent from the Caucasus with the exception of the Eastern Armenian dialect already mentioned. Thus, while the Caucasian languages in general can provide no typological grounds for understanding of the PIE voiced aspirated series, they do make the occurrence of such sounds in Armenian all the more remarkable and suggest strongly that this is a survival of an old PIE feature rather than some sort of late areal innovation.

3.2. The Hopper-Gamkrelidze-Ivanov (H-G-I) system was posited, in part, to account for the absence, or great rarity, of PIE **b*. Typologically, in languages with a glottal ejective series, the /p'/ is often missing. Absence of a /b/ in a language with labial stops is much rarer, if indeed it occurs at all. Therefore, the rarity of PIE **b* was better explained if **b* were traced back to **p'* instead. Typologically this reasoning is sound. /p'/ is indeed often missing from the Northeast Caucasian languages. It is always present, however, in the NWC ones and in the Kartvelian languages as well. While the NWC and Kartvelian facts are not typologically significant, they should be kept in mind in any efforts to relate PIE and Caucasian features in areal terms. Typologically significant is the absence of a voiced uvular stop from both NWC and Kartvelian groups (also from most Northeast languages as well). While PIE "classical" **gʰʷ*, construed in the "new" PIE as a possible uvular (Hopper 1977a:48-9), seems to have been the rarest of the labiovelars (*ibid.* 47), it is still common enough to have been an original segment no matter how far back we wish to push our PIE reconstructions. This too is distinctly at odds with the NWC areal picture and should be borne in mind in any future work.

4. Phonotactics of PIE *r:

4.1. It has been plausibly argued that PIE lacked initial *r (Lehmann 1951). If this is true, then PIE may have shared this feature, either typologically or perhaps even areally, with the Circassian languages and Ubykh. Kabardian (Kuipers 1963:59 and fn. 10) has no native words with initial /r/. The West Circassian dialects show only one or two examples, e.g., Chemgwi /raaza/ (1) "contented", (2) "in agreement", most likely late formations. It is clear that PNWC had initial */r/, but that this has been preserved only in the Abkhaz-Abaza group. Circassian and Ubykh have eliminated this in various ways. In old loans (*ibid.*), such as "silver", Skt. *rajatām*, Lat. *argentum*, Abkhaz and Abaza show /r/, East Circ. /d/ and West /t/; Ubykh may show /d/: Abkhaz /a-raʒən/, Abaza /rəzna/, Bzhedukh (West Circ.) /təʒʲən/, Kabardian /dəʒən/, Ubykh /daśʷanə/ (← */daʒʷanə/ ?), all "silver". In native words, the correlation is Abkhaz-Abaza /r/ ~ West Circ. /d/ ~ East Circ. /d/. Ubykh forms are again doubtful. The clearest word is "nut", PNWC */ra-/: West and East Circ. /da/, Abkhaz /a-ra/ (with definite article prefix), Abaza /rasa/, all "nut", Ubykh /laqʲʷa/ "walnut", /lašxʷə/ "hazel nut", root */la-/. Bzyb Abkhaz /a-raʃʷəc/, Abaza /raqʷa/ "thread", both with pharyngealized and rounded uvulars, point to a PNWC */ra-ʃʷ-/. PNWC */ʃu/ gives /ʔʷ/ in the Circassian languages: Bzhedukh (Bzh) /ʔʷədaan/, Kabardian (Kab) /ʔʷədaanə/ "thread", where the /-aa-/ sequence indicates that we are dealing with an old compound, and hence that we have a likely metathesis from an older */da-ʔʷə-/, directly comparable to the Abkhaz and Abaza roots. The Ubykh forms /dʷawə/ "thread", / (n) dʷəša/ "cord, rope" remain enigmatic: if PNWC */r/ → Ubykh /l-/, then we should have expected */laʃʷə/. When prefixed with an old grammatical class prefix, Circassian shows a voiced lateral spirant, /ʎ/, and Ubykh preserves the /r/: Bzyb Abkhaz /à-rəš-ba/ a family name, /à-raš/ "elm", Bzh. /bʎaačʰa/, Kab. /bʎaaša/ *id.*, Ubykh /brəcʷ/, /bərəcʷ/ "medlar" (small Eurasian tree of the rose family). These point to a PNWC root

**/rəčhə/* "elm", with ablaut variants **/račhə/*, **/račha/* and inflected forms **/p-račha/*, underlying the Circassian forms, and **/p-rəčhə-w/* the Ubykh.

4.2. Thus, though the developments are complex, we may note the following pattern. The Circassian languages show the clearest developments, with PNWC **/r-/* going to */d-/* and */-λ-/*, the latter when prefixed. Ubykh shows preservation in prefixed forms and perhaps */l-/* initially, though there seems to be a confusion of possible forms. Abkhaz and Abaza show simple preservation. This is a north-to-south gradient with the most thoroughgoing elimination of PNWC **/r-/* in the north among the Circassians. This is noteworthy for if the PIE homeland was to the north of the Caucasus, then it may have been contiguous to the Circassian speaking area. Thus the north-to-south gradient may reflect an archaic phonotactic areal feature shared by PIE and the northern NWC languages, with the northernmost, the Circassian languages, showing the most PIE influence, the middle, Ubykh, showing some influence along with a good deal of native innovation and dialect mixture, giving rise to the confusing picture we see today, and the southernmost area, the Abkhaz-Abaza languages, showing no PIE influence. Certainly more thorough investigation of PIE and NWC initial **/r/* would be rewarding.

5. Proto-Indo-European Palatal-Velar Series:

5.1. The usual reconstruction of the PIE *k*-like sounds is that shown in (5).

(5) PIE Velars:

<i>*k</i>	<i>*g</i>	<i>*gh</i>	(plain velars)
<i>*kʷ</i>	<i>*gʷ</i>	<i>*ghʷ</i>	(the so-called "labiovelars")

The plain velars are in some way palatalized in the satem languages,

while the labiovelars lose their rounding. The system is preserved in the centum, Anatolian, and Tocharian languages, with loss of rounding in the latter two. Correspondence sets show that velars in both centum and satem branches are often viewed as due to dialect mixture (Burrow 1965:77-6).

- (6) PIE **k* : Skt. *kákṣa-* "armpit", Lat. *coxa*, OHG. *hahsa*
**g* : Skt. *sthaḡ-* "to cover", Gk. *στέγω*, Lat. *tegō*
**gh*: Skt. *dīrghá-* "long", OCS. *dǫgov*, Gk. *δολιχός*,
 Hitt. *dalugaš*

Others assume that the forms in (6) reflect the true PIE velar series, while the velars of (5), as in Lat. *centum* "100", Av. *satəm*, PIE **kmtóm*, go back to a palatal series, usually written **k̑*, **g̑*, **gh̑*, but which I shall write as in (7) in order to follow traditional caucasiological analysis.

(7) PIE Palatals and Velars:

<i>*kʲ</i>	<i>*gʲ</i>	<i>*ghʲ</i>	(palatals)
<i>*k</i>	<i>*g</i>	<i>*gh</i>	(plain velars)
<i>*kʷ</i>	<i>*gʷ</i>	<i>*ghʷ</i>	(labiovelars)

Some workers, for example Hamp (1970), use the system in (7) to account for differences in the reflexes of palatals and velars within Indo-Iranian. There is no general consensus even now, however, as to whether the system in (5) or that in (7) is to be preferred.

5.2. Turning to typological studies, Hopper (1977a) takes the system in (5) and reinterprets the plain velars as palatals and the labiovelars as uvulars, to obtain the system in (8).

(8) Hopper's PIE:

<i>*kʰʲ</i>	<i>*kʰʲ</i>	<i>*gʲ</i>	(= old <i>*k</i> , <i>*g</i> , <i>*gh</i>)
<i>*qʰʷ</i>	<i>*qʰʷ</i>	<i>*gʷ</i>	(= old <i>*kʷ</i> , <i>*gʷ</i> , <i>*ghʷ</i>)

The system in (8) also shows Hopper's revisions of the PIE source features (cf. §3 above).

5.3. Unfortunately I know of no language with the system shown in (8), neither within nor without the Caucasus. The system in (9) is found along with several uvular series in East Circassian and the West Circassian dialects Shapsugh, Hakuchi, and Old Chemgwi, spilling over into Ubykh (Colarusso 1977:89-92), with contrast of voiceless aspiration only in some West Circassian dialects.

(9) NWC (Circassian-Ubykh) Palatals and Velars:

k ^h ʏ	kʏ	gʏ	kʔʏ
k ^h w	k ^w	g ^w	kʔ ^w

The contrasts in (9) are not unusual and may be found among some of the American Indian languages of the Northwest Coast. The Abkhaz-Abaza languages add to the system in (9) a series of plain velars, along with 3 or 5 uvular series, to produce a typologically unusual system. The simplest set of contrasts (using unmarked voiceless segments as exemplars), /k^w/ ~ /q/ ~ /q^w/, is found, apparently as a recent development, in Kabardian, Bzhedukh, and New Chemgwi, but such a set is a very non-Indo-European looking one. In effect, therefore, the NWC languages are much richer in the palatal, velar, and uvular areas than is any recoverable stage of PIE and as a consequence can provide little typological guidance for the analysis of the PIE "gutturals". The issue of choosing between such systems as (5), (7), or (8) will have to be decided on the basis of internal PIE considerations.

6. Epenthesis (Anaptyxis):

6.1. Anaptyxis or vowel epenthesis in PIE is quite complex (Potoné 1965:29, fn. 126): *ǵ₃p^ok^uto- → Iranian *puxta, or the syllabic -b- in Avestan dābənao- (Skt. dābhnóti), or the Greek forms πλητός,

γνωτός ← *p_leʔtó-, *ǵn_eyto-, respectively, vs. *dʰeʔtó-, *d_yeʔtó- → θετός, δοτός, respectively, all phonologically */p_liʔtó-/ , */ǵnytó-/ , */dʰiʔtó-/ , */d_yiʔtó-/ . In some ways this is one of the most confusing and least understood areas of PIE phonology, as Polomé admits. Luckily, it is in just this area of vowel-epenthesis and syllable structure that the NWC languages offer interesting parallels, for they, like PIE, have elaborate agglutinative forms.

6.2. Widespread in the NWC languages are two general ə-epenthesis rules that may be represented to a first approximation by the rules in (10).

(10) NWC ə-Epenthesis Rules:

- a. Ø → ə % [-voice] _____ [+voice]
- b. Ø → ə % [-sonorant] _____ [+sonorant] { [-sonorant] }
#

(10a) accounts for the underlined schwa in such forms as Anatolian Abaza /d-s-ba-x-d/ → /d-ə-z-ba-x-ə-d/ "him/her-I-see-again-past" = "I saw him/her again", and the Bzhedukh agglutinated form /sə-q-z-fə-za-thay-wəćwa-a-ya-gwara-ra/ → /sə-q-ə-z-fə-za-thay-wəćwa-a-ya-gwàra-r/ "I-horizon-what-for-self-on-halt-thematic vowel-past-referential-participle" = "the reason why I stopped in my tracks (distal action)".

(10b) accounts for the underlined schwa in such forms as Bzh. /śwəz-m/ → /śwəz-ə-m/ "woman (oblique case)", or Ubykh /bə̀rə̀cʷ/ "medlar" as opposed to the more usual /brə̀cʷ/. The rules in (10) are a simplification and their number may increase with further work, yet in their present state they offer a very natural and typologically plausible form of anaptyxis, one that is likely to have played some role in the history of PIE.

6.3. There is yet another type of ə-epenthesis in NWC that sheds light on PIE processes. Contrary to some assertions (cf. Allen 1956 and 1965a; Anderson 1978; Kuipers 1960, 1968, and 1976), /ə/ is not

entirely predictable in any NWC language (for extensive arguments, cf. Colarusso 1975:347-73) nor does it appear to be entirely predictable among the languages of the Ndu family of New Guinea, such as Manambu, the only other languages where /ə/ ~ /a/ vertical vowel systems are known (cf. Allen and Hurd 1972; Pike 1964). For Abaza, one of the most important authorities, Genko (1955:171-3), stated that /-ə-/ is a morpheme meaning "from, out from a locus" and stands in apophonic contrast with /-a-/ "toward, into a locus" and /-ø-/ "at, on a locus" as a suffix on verbal locative particles, hardly a statement that one would expect from one belonging to the "vowelless" persuasion of Caucasology in which Genko is sometimes placed. In fact, this /-ə-/ morpheme accounts for such pairs as (*ibid.*; Tugov 1967:293, 294) Abaza /nc'-ra/ "to live" vs. /n-ə-c'-ra/ "interior-outward-go-inf(itive)" = "to go away, leave, go out from", or /c'-c'-ra/ "bite-bite-inf" = "to gnaw, nibble" vs. /c'-ə-c'-ra/ "under-outward-go-inf" = "to come out from underneath".

6.4. Yet, despite the clear status of /ə/ as a systematic phoneme in Abaza, most /ə/'s are epenthetic (cf. Allen 1965b; 1966). Thus, as forms are inflected, their syllabic structure alternates as in (11).

(11) Abaza:

- a. /d-l-ba-d/ → /d-ə-l-ba-d/
"him/her-she-see-past" = "she saw him/her"
- b. /d-l-z-ba-d/ → /d-l-ə-z-ba-d/
"him/her-she-can-see-past" = "she was able to see him/her"
- c. /d-gʏ-l-m-ba-d/ → /d-ə-gʏ-l-ə-m-ba-d/
"him/her-neg(ative)-she-neg-see-past" = "she did not see him/her"
- d. /d-gʏ-l-z-m-ba-d/ → /d-gʏ-ə-l-z-ə-m-ba-d/
"him/her-neg-she-can-neg-see-past" = "she could not see him/her"

(12) Abaza ə -Epenthesis Rule:

Rule (12) is complicated by the role of glides; there is some indication that post-tonically they do not count as segments for (12).

6.5. Whatever the exact form of (12), what is of interest to us is that it is a rule which inserts syllables starting from the end of a word. This will cause the syllabification of a word to alter radically as it is inflected. Similar variability occurs in the PIE \emptyset -grade (cf. Anttila 1969:30-3; Schmitt-Brandt 1967). Sometimes there is evidence of inflectional differences (cf. Polomé 1965:29, fn. 126): Gk. ἔπορον : πέπρωται "it has been fated", "with [p_eɾɣ] before thematic endings and [p_r_eɣ] before athematic endings". In other cases, no clear difference in inflection is apparent (cf. the examples cited in

§6.1, above). Yet in those cases where inflectional differences do seem to be involved, we have strong evidence that we are dealing with a rule similar to (12), i.e., a right-to-left epenthesis rule. The exact form of the PIE rule is probably irrecoverable because of the loss of details in the daughter languages due to leveling in various paradigms and derivational settings. Those forms which show irregular variation in epenthesis may reflect the influence of epenthesis rules such as those in (10) or late dialectal variations in syllabification of consonant sequences. Thus, we are in the interesting position that while we cannot recover the detailed form of PIE anaptyctic processes, we can nevertheless be confident of the overall form of at least that process which is associated with thematic and athematic inflection, and obtain some typological guidance for examining these complex processes from similar mechanisms in the NWC languages. We shall see similar patterns of syllable type when we examine Schwebeablaut below (§8).

7. Ablaut (Metaphony):

7.1. One of the most striking features of PIE -- and quite in keeping with the general picture presented by anaptyxis -- is the variability both of quality (ablaut or metaphony) and position (Schwebeablaut) of syllabic nuclei. Taking in this section ablaut, we find pairs such as the following in the daughter languages: Gk. λέγω : λόγος ("I say" : "word"), Lat. *tegō* : *toga* ("I cover" : "gown"), OE. *sīngan* : *sang* ("to sing" : "song"), often with morphological significance as in the forms just cited, with *e*-grade in the verb and *o*-grade in the noun. It is possible that much of this ablauting may reflect ancient allophonic variations due to word stress (cf. Burrow 1965:111-2): Gk. δοτήρ : δώτωρ "giver". In such accounts, **o* is viewed as an unstressed allophone of **e* (stress being either percussive or pitch), counter examples being viewed as due to analogical extensions of one vowel over another. It is certainly possible that some such conditioning factor is correct, and the theory has attracted some recent attention (Bomhard 1975:§3.4-

§3.7, §4.4, §5.5-§5.6, §6.4; 1976:§7.1-§7.5; 1977:§23-§27; 1979:§3; Burrow 1965:107ff; Lehmann 1952:109ff; Schmitt-Brandt 1967:124ff).

The NWC languages, on the other hand, like Semitic ones, show metaphony, either as an active process or part of their history, with only morphological conditioning.

7.2. Metaphony is active in the Circassian languages, marginal or relict in Abkhaz-Abaza, and relict in Ubykh. It may involve /ə/a/ and in some forms /ø/ə/a/. Occasionally, /ø/ə/ or /ø/a/ is found, but such cases are probably better analyzed as vowel-deletion under phonological conditioning. What is interesting in the Circassian languages is that we can still observe two processes: one of true ablaut in which a morpheme can come in several grades, and one in which another morpheme is being added. In the latter case, this morpheme is a single vowel and supplants the vowel of the main morpheme to which it is appended. Thus, this process merely mimics ablaut through a set of fortuitous phonological conditions. It is still active in the Circassian languages and arises through simplification of the sequence /-ə-a-/ to [a]. A related process creates long /a/'s from the sequence /-a-a-/. Examples of false ablaut are shown in (13).

(13) NWC False Ablaut:

Bzhedukh:

- a. /šhə/ "horse", /šhə-a-šy/ → /šhəšy/ "horse stable", lit. "horse-its-standing place"
- b. /maɭa/ "sheep", /maɭa-a-šy/ → /maɭāšy/ "sheep shed"
- c. /wəna/ "house", /wəna-a-γw/ → /wənāγw/ "family", lit. "house-its-territory" (?)

Ubykh (cf. Vogt 1963:26-7):

- d. /sə-tʷ-ala # sə-na-ala/ → /sətwala # sənāla/ "my father and mother", lit. "my-father-and my-mother-and"

Abaza (cf. Genko 1955:171-3):

- e. /c'-a-c'a-rà/ "under-into-set-inf" = "to set something underneath something else"

- f. /c'-ə-c'-ra/ "under-out-from-move-inf" = "to come out from underneath something" (note g)
- g. /c'-c'-ra/ "bite-bite-inf" = "to gnaw, nibble"

The Abadzhakh dialect of West Circassian has retained a three-way false ablaut (cf. Colarusso 1977:107).

(14) Abadzhakh West Circassian Three-Way False Ablaut:

- a. /ø-sə-tχ/ "it-I-write" = "I usually write something" (transitive and habitual)
- b. /ø-sə-tχ-ə/ "it-I-write-trans(itive)" = "I am writing something" (transitive, momentaneous)
- c. /sa-tχ-a/ "I-write-intrans(itive)" = "I am writing, I write" (intransitive)

7.3. In the Circassian languages, however, there is also extensive use of true ablaut. In these cases, no separate vocalic morpheme can be found (Colarusso 1975:355, 1977:107; Kuipers 1960:69-72). Various gradation processes may be distinguished, all more or less corresponding to clear morphological differences.

(15) Circassian Ablaut: /ə/ vs. /a/

Kabardian:

- a. /zə/ "one" vs. /za/ "once"

Bzhedukh:

- b. /ś'wə/ "good" in /ś'wə-χayw-ə-nəγ/ "good-see-trans-deverbative" = "love" (noun) vs. (c)
- c. /ś'wa/ "good" in /-ś'wa-χayw-ə-/ "good-see-trans" = "to love"
- d. /qwa/ "son" vs. /qwə-γ-š'γ/ "son(s)-their-three" = "three sons"

(16) Circassian Ablaut: /ø/ vs. /ə/ vs. /a/

Bzhedukh:

- a. /-s-/ "I" in /ø-s-tχ-ə-γ/ "it-I-write-trans-past" = "I wrote it"

- b. /-sə-/ "I" in /ø-sə-tχ-ə-ø/ "it-I-write-trans-pres(ent)"
= "I am writing it"
- c. /sa-/ "I" in /sa-tχ-a-ø/ "I-write-intrans-pres" = "I
write, I am writing"

Forms in (17) are most likely due to final vowel devoicing and deletion, rather than true ablaut.

- (17) Circassian Ablaut (?): /ə/ vs. /ø/, and /a/ vs. /ø/

Bzhedukh:

/ə/ vs. /ø/:

- a. /s-cə/ "my tooth" vs. /ə-c/ (← /ə-cə/ ?) "his tooth"

/a/ vs. /ø/:

- b. /śħa/ "head" vs. /χ'aśħ/ (← /χ'ə-a-śħə/ ?) "leader",
lit. "man-his-head/top"

7.4. The other NWC languages show true ablaut but not in a productive form. In Abkhaz-Abaza, it exists but has no clear morphological significance and is probably a historical relic. Thus, we find forms such as Bzyb Abkhaz /à-bayʷ/, /à-bəyʷ/, /à-byʷa/, all meaning "bone" (cf. Colarusso 1977:106). Such variants most likely reflect retentions of different ablaut grades of a root from a period when ablaut was still an active process in Abkhaz-Abaza. In Ubykh, leveling seems to have taken place, and much less ablaut variation has survived, though pairs such as /lašxwə/ "hazel nut", root */la-/ "nut" (cf. §4.1, above) with /-šxwə/, vs. /šxwə/ "herbs" (earlier "*greens", cf. Bzh. /šxwəant'a/ "grey, blue, green") can be found.

7.5. We thus have a situation in which morphologically conditioned true ablaut seems to have been a characteristic of PNWC and has survived in only one branch, leaving relics elsewhere. Some forms, such as the Bzyb variants of "bone", the Ubykh forms, and such inflectional variants as the root for "son" in (15d) in Bzhedukh, strongly suggest that some original ablaut may have been morphologically conditioned but not seman-

tically significant, i.e., have represented mere combinatory variants. No evidence of phonological conditioning is available, though forms such as those in (17) should remind us that phonological conditioning might have been possible and would be exceedingly difficult to distinguish from morphologically conditioned ablaut in certain circumstances. Typologically, the NWC languages or PNWC need not have paralleled PIE with respect to ablaut. Then again, PIE may not have had phonologically conditioned ablaut or may have had some areas of its grammar subject to morphologically conditioned ablaut alone. Forms such as Gk. λέγω : λόγος strongly suggest morphological ablaut, while pairs such as δοτῆρ : δώτωρ equally strongly suggest phonological. NWC gives us models for both. We should remain aware that, though it may be unesthetic, a proto-language should be rich enough to account for all the data of the daughter languages that in any reasonable sense appear to be old.

8. Schwebeablaut:

8.1. Turning now to Schwebeablaut or positional variation in the syllable nucleus, we find one of the most recent developments in PIE theory (Benveniste 1935) and as such it is still the subject of some controversy (cf. Anttila 1969). It is based upon a $*e/*\emptyset$ ablaut, where roots of the shape $*CeC-$ with suffixes, thus $*CeC-C-$, appear as stems either as a theme I, $*CeC-C-$ (cf. Gk. ἔργον ← $*wer-g-$), or as a theme II, $*CC-eC-$ (cf. Gk. ῥέζω ← $*wr-eg-$). The bare root rarely, if ever, occurs but can be inferred from alternating suffixes, as in pairs such as Lat. *sector* ← $*sékw-t-$ vs. Vedic *sákh-ā* ← $*sékw-ṛ-$ (cf. Benveniste 1935:176). Such stems may be further expanded by an "enlargement", thus: $*\bar{e}w-d-$ (I) (Av. *aoda-* "source"), $*\bar{e}w-éd-$ (II) (Arm. *get*, Goth. *watō* [with *o*-vocalism]), $*\bar{e}w-d-én-$ (Skt. *udán*) or $*\bar{e}w-d-or-$ (Gk. ὕδωρ), further $*\bar{e}w-d-n-és$ (Skt. *udnáḥ* gen. sg.), (*ibid.*:151, 180). This process can be carried even further: $*bhr-w-n-en-$ (PGmc. **brunen-*), with one zero-grade enlargement, and further $*bhr-w-n-n-en$ (Goth. *brunna*), with two. It is just such extension of the PIE theme II stem that leads

to elaborate "zero-grade" stems, i.e., stems of the form CC-C-C-. It is in such zero-grade stems, perhaps late elaborations of an earlier, simpler system, that we see the anaptyctic processes that we examined in §6 at work, cf. (*ibid.*:157-8) $*_{\bar{a}_3} \acute{e}p-k^w-$ (Gk. $\acute{o}\pi\tau\acute{o}\varsigma$?), $*_{\bar{a}_3} p-\acute{e}k^w-y-$ (Skt. *pácy-ate*, Gk. $\pi\acute{\epsilon}\sigma\sigma\omega$), $*_{\bar{a}_3} p-\acute{e}k^w-t-$ (Gk. $\pi\acute{\epsilon}\pi\tau\omega$), $*_{\bar{a}_3} p-\acute{e}k^w-s-$ (Skt. *pakṣ-*), $*_{\bar{a}_3} p-k^w-t\acute{o}-$ (Gk. $\acute{o}\pi[\pi]\tau\acute{o}\varsigma$, Iranian **puxta*, Pers. *puxtān* [cf. §6.1]). Here again we are confronted with the complexities of PIE anaptyctic processes which we discussed in §6. For example, if $*_{\bar{a}_3} p-k^w-t\acute{o}-$ was syllabified so as to yield Gk. $\acute{o}\pi(\pi)\tau\acute{o}\varsigma$, then one would have expected $*_{\bar{a}_3} p-\acute{e}k^w-y-$ and $*_{\bar{a}_3} p-\acute{e}k^w-t-$ to have yielded $*\acute{o}\pi\acute{\epsilon}\sigma\sigma\omega$ and $*\acute{o}\pi\acute{\epsilon}\pi\tau\omega$ respectively. Such issues must remain beyond the scope of this paper. What is of interest to us is the fact that these zero-stems with their anaptyxis are part of the overall process of Schwebeablaut. Accordingly, it is tempting to view Schwebeablaut itself as a product of a kind of anaptyctic phenomenon. In this view (cf. Lehmann 1952:112, §15.5), the vowel grade in the stem is viewed as a phonetic realization of distinctive stress so that vowels hop around following morphologically conditioned shifts in stress. As this is an important contention, spilling over into questions about the laryngeals, and has been one of the chief starting points for typological comparisons between PIE and such NWC languages as Abaza (Allen 1965a; Martinet 1957a and 1957b), it deserves further examination.

8.2. There are certain aspects of Schwebeablaut that strongly suggest an anaptyctic process. The pattern in (18a, b) is suggestive of the Abaza anaptyctic rule (12), with CCCV \rightarrow CCVCCV (Benveniste 1935: 175).

(18) PIE Schwebeablaut as Anaptyxis:

CVC-CV

- a. $*pon-t(i)$ Gk. $\pi\acute{o}\nu\tau\acute{o}\varsigma$, Lat. *pons -tis*, OCS. *pqtъ*, OPruss. *pintis*

CVC-C-VC-

- b. **pon-t-eə*₂- Av. *pan^otā*, Skt. *pánthā-h* (with *-h-* from the oblique cases)

CC-C-C-VC

- c. **pn₃-t-ə*₂-es Av. *paθō* gen.-abl. sg.

The interplay between (18a) and (18b) would precisely parallel, on a phonetic level, the kind of anaptyxis seen in such Abaza forms as (11). Unfortunately, the form in (18b) is abnormal, as Benveniste himself says, with a restored full-grade in the root. One would have expected **pn₃-t-eə*₂- (Av. **patā*-, Skt. **páthā*-). (18c) is in fact a normal development. The point is this: In Abaza, the anaptyctic vowel, [ə], is phonetically identical with one of the systematic phonemes, viz., /ə/. Even if one were to banish PIE **o* from the era of productive Schwebelaut (cf. Lehmann *op. cit.*), the anaptyctic vowel would not be the same vowel as that found in the full-grade. The full-grade is **e*; the anaptyctic vowel is usually equated with schwa secundum, cf. **d_ekC-* → Gk. δελδάσκω (Collinge 1953:80), though in fact its actual vocalic reflex is extraordinarily difficult to determine with any degree of confidence, being often masked by coloring from contiguous sonorants and other consonants (cf. the difficult forms cited in §6.1). If **e* is to be taken as an anaptyctic vowel, then some explanation must be found for why it differs from the "true" anaptyctic vowel, schwa secundum or whatever it may be. Such explanations are not unimaginable. We may be dealing with two levels of anaptyxis, an older one with **e* and a later one with schwa secundum. This would gain some support from the contention that extended zero-grade stems, such as (18c), may be later extensions of earlier patterns. It is also possible that the anaptyctic vowel in PIE, unlike that in Abaza, was phonetically different under stress, producing instead of a schwa secundum an **e*. In any event, interpreting Schwebelaut as an anaptyctic process forces complications into PIE phonology and raises more questions than it answers. Thus, on a phonological level, PIE Schwebelaut and NWC anaptyxis are not comparable except in their grosser lineaments. There is a further problem.

8.3. PIE Schwebeablaut is a morphological process intimately associated with the formation of stems. Thus, the root is the first element, in full- or zero-grades, followed by a suffix. These may have further suffixes or "enlargements" affixed to them. Remarkably, a similar system is found in Proto-Kartvelian (cf. Anttila 1969:177-8; Gamkrelidze 1966 and 1967; Gamkrelidze [Gamkrelidze] and Mač'avariani 1965 [esp. 433-5]); cf. (19).

(19) Proto-Kartvelian Schwebeablaut (cf. Anttila 1969:177):

root: **der-*, stem **der-k'*- "to bend"

	<u>Transitive</u>	<u>Intransitive</u>
present	<i>dr-ek'</i> -	<i>dn-k'-V</i>
aorist	<i>dr-ik'-e</i>	<i>der-k'-</i>

It is not quite as simple as (19) would indicate. We should also note that **dn-k'-a* occurs as an intransitive 3rd sg. aor., and that Mingrelian and Laz (sometimes grouped together as Zan) show the very un-IE-looking pattern of **dn-ik'*- alongside **dn-k'*-, although this may be a dialectal development. Proto-Kartvelian Schwebeablaut is confined to the verb, unlike PIE Schwebeablaut. As an indication of further morphological restriction, there is no evidence of significant stress differences in Proto-Kartvelian so that the variations seen in (19) must be viewed as largely due to morphological conditioning, though of course an earlier stress stage is still a possible source for this state of affairs. As Proto-Kartvelian Schwebeablaut stands, it presents a striking parallel with PIE Schwebeablaut, though numerous details are divergent between the two. By comparison, Abaza anaptyxis looks less like PIE Schwebeablaut. It is a purely phonological rule, governing the shape of the whole word and not the formation of a crucial class of morphemes. Forms such as those in (11) are inflected and undergo anaptyxis without regard to the root /-ba-/ "to see", which remains in its *a*-grade. This is in sharp contrast with the PIE system, in which both vowels are subject to variation under crucial morphological changes. In its deepest

sense, as a morphological process of stem formation, Schwebeablaut is absent from the NWC languages. This is surprising. It has been suggested (Gamkrelidze 1966:83, §3.9) that the occurrence of Schwebeablaut in both Proto-Kartvelian and PIE may have been due to a *Sprachbund*. This would make sense if the PIE homeland were taken to be just to the north of the Caucasus, as has been suggested (cf. §2.2). In this case, one would expect Schwebeablaut patterns to occur in various Caucasian proto-languages or languages. One would naturally expect NWC to fall between PIE and Proto-Kartvelian. Indeed, there is evidence that the NWC languages and PIE may have been contiguous at a remote point in their histories. This evidence is in the form of ancient loans between PIE and PNWC or early forms of Circassian, the northernmost NWC language sub-group (Colarusso 1977:70-73 and 153-4; forthcoming *b*). One should expect, therefore, Schwebeablaut patterns somewhere in the NWC family. There, in fact, does appear to be something like Schwebeablaut early in the history of PNWC.

8.4. NWC history is exceedingly difficult to recover, and the forms presented here are quite tentative (Colarusso 1977:103-7; forthcoming *a*). Nevertheless, some fairly firm conclusions can now be reached. First, it seems that the quasi-vowelless look of Abaza is a late development and represents a process of vowel loss that was operative in the early history of the family and has been carried to a near extreme in this dialect branch. PNWC looks much more like a Northeast Caucasian language than it does like any of its daughters. There has been a change of language type in going from PNWC to its attested descendants. The NWC languages have come to resemble PIE perhaps as a result of contiguous PIE influence or, better, as a result of areal shifts in language type shared by PIE and PNWC. The common PNWC root canon, CVCV-, can be seen in (20).

(20) NWC Etymologies:

PNWC */besə/ "water, stream, body of water"

- a. */besə/ → */bsə/ → Circ. /psə/ (left-to-right assimilation)
- b. */besə/ → */bsə/ → Ubykh /bzə/ (right-to-left assimilation)

This is about as simple as NWC etymologies come. There is no affixation of grammatical class prefixes or other types of suffixes. Of immediate concern to our purposes is the obvious vowel deletion due to the influence of what must have been a strong stress accent, still preserved in Ubykh and, to a lesser extent, Abkhaz-Abaza. More complex histories may be seen in (21).

(21) NWC Etymologies (Colarusso 1975:413, fn. 13 and 1977:105-6):

PNWC */ʔeqə/ "to run"

- a. */ʔeqə/ → */ʔqə/ → Ubykh /qə-n/
- b. */-wʔeqə/ → */ʔwəqə/ → */ʔwəqə/ → */q'wə/ → Abkhaz /a-ɣw-ra/, Abaza /ɣw-ra/ (cf. Circ. verbal prefix /-w-/)

PNWC */-ʔeqə-/ "bone", */b-/ grammatical class prefix (cf. Klimov 1969:56)

- c. */bə-ʔeqə/ → */bəʔqə/ → */bəqə/ → */bqə/ → */bqə/ → Bzh. /-pq/ "bone, frame"
- d. */bə-ʔeqə/ → */bəʔqə/ → */bəqə/ → */bqə/ → Ubykh /bɣə/, later /bɣə/ "thin", said only of animals, i.e., "boney"; Ubykh /-pq(ə)/ "bone, frame" is a Circ. loan
- e. */bà-ʔeqə-w/ → */bàʔqu/ → */bàʔqʷə/ → */à-baq'wə/ → Abzhwi Abkhaz /à-baɣw/, Bzyb /à-bayw/ "bone"
- f. */bə-ʔeqə-w/ → */bəʔqu/ → */bəʔqʷə/ → */à-baq'wə/ → */à-bəɣw/ → Bzyb /à-bəyw/ *id.*
- g. */bə-ʔeqə-w/ → */bəʔqu/ → */bəʔqʷə/ → */bəq'wə/ → Abaza /bəɣw/ *id.*
- h. */bə-ʔeqə-w/ → */bəʔqo/ → */bəʔqʷa/ → */à-baq'wə/ → */à-bəɣw/ → Bzyb /à-bywə/
- i. */bə-ʔeqə-w/ → */bəʔqu/ → */bəʔqʷə/ → */bəq'wə/ → */bəɣwə/ → Abaza /bəɣwə/ *id.*

Some of the etymologies (21c-i) might be replaced with analogical extensions of various vowel grades, but the conditions for this are not yet clear and so the histories have been recorded in detail. It should

be noted that the history of the Ubykh form (21d), for example, from */bē-ʔeqà/ to */bēʔqà/ produces a form reminiscent of a PIE theme I, *ceC-C-*. A further shift from */bēʔqà/ through */bēq̃à/ to /bṽà/ produces a form reminiscent of a PIE theme II, *CC-eC-*, but without the final consonant. An intermediate form */bʔeqà/, though it would look more like an IE theme II, is ruled out as it would produce an early Ubykh */bṽà/, not found. Similarly, an intermediate form */bʔqà/, though resembling an IE zero-grade stem, would be expected to yield only Ubykh /bṽà/ and never /bṽà/, though the latter is the earlier, unassimilated form. It is through such recurrent processes of syncope that the NWC languages have acquired the remarkable consonant clusters and general phonotactic patterns that set them apart from the North-east Caucasian languages, with whom they may be remotely related, and give them their resemblance to PIE.

8.5. Thus, although NWC etymologies only approximately follow PIE Schwebeablaut patterns, it is tempting to suggest that PIE itself may have derived its Schwebeablaut from an earlier full-grade stage, *CVC-VC-*, reminiscent of PNWC. This would give the earliest PIE a look which, though currently not popular, has been propounded before (see, for example, Kerns and Schwartz 1940). Phonologically, and typologically, it is simpler to assume an early form **pél-ew-*, for example, yielding **pél-w-*, theme I (Benveniste 1935:54), (Goth. *filu*), and another **pól-ew-* yielding **pól-w-* (Gk. **πόλυ*), while a **pel-ów-* yielded a theme II **pl-ów-* (OLat. *plous*, Lat. *plūs*), and a **pel-éw-* yielded **pl-éw-* (Hom. Gk. *πλέος*). This theory reduces Schwebeablaut to an earlier process of syncope. While this theory may be somewhat unesthetic in that it may occasionally require the reconstruction of a vowel whose color is completely lost (one might prefer to have **pél-vw-* rather than **pél-ew-*), it has the advantage of accounting in a straightforward way for the difference between PIE **e* and the anaptyctic vowel: PIE **e* is no longer an anaptyctic vowel, but a simple vowel in its own right, and the anaptyctic vowel need have no connection with it. Furthermore, the

NWC languages provide relatively strong typological (and perhaps areal) evidence in their histories that such a process can be extensive and lead to phonotactic patterns remarkably like those of early PIE. In this scheme, the NWC languages are IE-like languages that have never gone on to have the further developments that have given rise to the patterns of late or dialectal IE and its daughter languages. Finally, the vowelless forms of PIE that have been postulated now seem less likely, for the history of the NWC languages, particularly Abaza, which comes as close to being vowelless as any of the family, show that such a phonotactic state is not primitive, but is more likely the end product of a long linguistic evolution.

9. The PIE Vocalic Inventory $*e \sim *o$ and the NWC Vertical Vowel System:

9.1. Ignoring the nonapophonic PIE $*a$ until the next section, it must be admitted that the PIE vowel system $*e \sim *o$ is typologically utterly bizarre. Even adding $*a$ to this system does not change this fact. I know of no language with such a vowel system. The only thing that resembles it at all is the vertical two-vowel system characteristic of the NWC languages. The PIE system seems to be based upon a front \sim back opposition, whereas that of the NWC languages seems to be a mid \sim low one (cf. Colarusso 1975:293-418). In terms of distinctive features, however, PIE $*e$ and NWC $/ə/$ are equivalent, i.e., both [+syllabic, -high, -low, -back, -round], though on a phonetic level, the reflexes of PIE $*e$ in most of the daughter languages have been front vowels, whereas the phonetic realization of NWC $/ə/$ in noncoloring consonantal environments, such as next to a labial, is a central or slightly fronted central vowel. PIE $*e$ and NWC $/ə/$ seem to exhibit two systematic similarities as well. First, they are both minimal vowels, i.e., they mark syllabic peaks and have no other inherent features themselves. Second, they both enter into parallel relationships of ablaut with a second vowel, in PIE $*o$, in NWC $/a/$. Also the wide tendency for PIE $*o$ to have an $/a/$ reflex in many of the daughter languages,

often falling together with the reflex of $*a$, suggests that $*o$ may have stood in opposition to $*a$ through the feature [+round]. This would make $*o$'s rounding a redundant feature that became significant only after the emergence of $*a$. Moreover, an interpretation of PIE $*o$ as [+low] would make the vowel system look much more like the NWC one, making it typologically unusual, but comprehensible. The similarities between the two systems are strong enough to warrant further study. There are two further considerations that are worth looking at.

9.2. The reinterpretation of the PIE $*e \sim *o$ system as $*/\text{e}/ \sim */\text{a}/$ presents one problem. It is quite easy to imagine that at the time when the old morphological patterns were breaking down and syllabic $*/y/$ and $*/w/$ were being reinterpreted as $*/i/$ and $*/u/$, the old $*/\text{e}/$ was reinterpreted in its least marked allophone, probably $*[\text{e}]$ originally, leading to $*a$ in Indo-Iranian and $*e$ or some other front vowel in most of the other dialects. The shift of $*/\text{a}/$ (apophonic, i.e., classic $*o$) to $*/\text{o}/$ presents difficulties. It is possible that $*/\text{a}/$ was rephonemized on the basis of a rounded allophone, perhaps the product of coloring due to labiovelars and o -coloring laryngeal(s). Here the confusion of the reflexes of $*o$ with the $*/\text{a}/$ reflexes of nonapophonic $*a$ may be traces of the earlier form of $*o$ as $*/\text{a}/$ (apophonic). It is also possible that PIE simply realized an earlier $*/\text{a}/$ as $*[\text{o}]$ or $*[\text{ɔ}]$. Of interest in this regard is the persistence until nearly the end of the first millennium A. D. of an areal feature in the Ukraine in which $*/\text{a}/$ was realized with rounding. Traces of this can be found in the history of Ossetic and to the present day in many Hungarian dialects, Hungarian having been contiguous to Ossetic prior to its final migration into Europe. Thus, although it is perhaps unlikely, PIE may reflect an ancient southern Russian areal feature. However one may wish to construe the shift of hypothetical PIE apophonic $*/\text{a}/$ to $*o$, one must find a way of distinguishing this apophonic $*/\text{a}/$ ($*o$) from nonapophonic $*a$. We shall return to nonapophonic $*a$ in the section on laryngeals (§13.5). For now, it should be

emphasized that while there are certainly a number of forms in which an original $*a$ seems to be recoverable, it is quite striking that this $*a$ does not enter into any of the apophonic processes characterizing the rest of the vowel system. This strongly suggests, especially given the prevalence of ablaut in PIE, that as old or "original" as non-apophonic $*a$ may be, it may be from a younger period than $*e \sim *o$ (our hypothetical $*\text{ə}/ \sim */a/$), or it may reflect a syllabic allophone of a segment that is underlyingly not a vowel, i.e., it may reflect some type of very old "laryngeal". To have it otherwise, to have a simple $*e \sim *o$ system with extensive apophony conjoined with a non-apophonic $*a$, is perhaps the single most typologically improbable aspect of PIE phonology as it now stands.

9.3. In the NWC languages, the anaptyctic vowel $[\text{ə}]$ coincides with the systematic phoneme $/\text{ə}/$. This makes good sense since what an anaptyctic vowel is supposed to do is add a feature of $[+\text{syllabic}]$ to break up consonant clusters, and this is just what the distinctive specification of $/\text{ə}/$ is. Epenthetic $[\text{ə}]$ and systematic $/\text{ə}/$ behave the same way phonetically, with the exception that the systematic one tends to persist in most languages even when unstressed. It is this persistence that is probably a major aid to the NWC language learner in his task of sifting through the welter of schwas in his language to find underlying ones and is the chief reason why no dialect has totally lost this phoneme. In this regard, the PIE neutral syllabic vowel, $*e$, differs from the anaptyctic vowel and, as has been noted (§8.2), is a strong reason not to regard the PIE Schwebeablaut system as due to anaptyctic processes. Yet if we are really to compare the PIE vowel system to that of the NWC, then we must account for this difference between the treatment of the neutral vowel and the anaptyctic vowel in the two groups. Two possible explanations have come to mind. First, one could readily imagine a NWC language eventually setting up some sort of phonetic difference in the treatment of systematic $/\text{ə}/$ as opposed to epenthetic $[\text{ə}]$. This would be a great aid to the child in learning one of these languages and

would promote the preservation of /ə/ which frequently carries an important semantic load. If this happened in PIE, such a difference, perhaps degree of fronting, would be established by superficial phonetic rules that would later be reinterpreted in the diverging IE dialects as phonemic differences, thus giving rise to the different reflexes of IE **e* as opposed to the anaptyctic vowel. Second, it is possible that PIE did not have well established anaptyctic processes and that these arose only during the period of dialect differentiation. In favor of this interpretation of PIE anaptyxis as late, it should be noted that even Greek, which is, of course, highly conservative in its treatment of PIE vocalism, shows varying reflexes of the PIE anaptyctic vowel. Sometimes it resembles schwa secundum, **d_ekc-* → Gk. δολόσσω (cf. §8.2), but at other times turns up as an -υ-, cf. Gk. χθές without anaptyxis vs. χθελός "yesterday" with anaptyxis, perhaps showing *i*-coloring from a **-y-* (← **dhgh_e-yó-s*, Skt. *hyás*), or with some other coloring (cf. §6.1), or may even have been absent altogether, cf. Gk. ὀπ(π)τός ← **ǵ₃p-k^w-tó-* (§8.1). If a careful sifting of the PIE material provides evidence for one or more anaptyctic processes in the parent language, then we may construe this to mean that PIE distinguished **/ə/* from anaptyctic **[ə]* by phonetically stabilizing the former and allowing the latter to undergo coloring by adjacent consonants and glides. If the reflexes of anaptyxis in the IE dialects show tremendous and irreconcilable differences in syllabic form and position, then we may assume that PIE reinterpreted **/ə/* as **e* and that anaptyxis was a late, dialectal IE innovation. Only further consideration of the difficult question of PIE anaptyxis will permit a choice between these two alternatives. With the aid of NWC, we have at least been able to frame these two theories.

10. PIE Laryngeals and Comparable Segments in the NWC Languages:

10.1. PIE laryngeal theory is still in a state of flux (cf. Winter 1965a), largely because of (1) doubt as to the reflexes of laryn-

geals in certain positions, particularly next to sonorants, (2) doubt as to the effects of laryngeals as opposed to effects of analogy, (3) doubt as to the number of laryngeals, i.e., they do not always appear in the Anatolian languages where theory predicts them. The Anatolian languages may enjoy with regard to the laryngeals somewhat the arbiter status of Sanskrit in the nineteenth century, even though it is becoming increasingly clear that laryngeals have vanished from Anatolian in certain positions (cf. Watkins 1975:1-26), and may have persisted elsewhere as, for example, in Albanian (Hamp 1965a). It may not be too much to say that, at least in part, our future understanding of the PIE laryngeals will directly benefit from an increase in our understanding of the Anatolian branch. For example, Watkins (1972:10, 28, fn. 11) has shown that the lack of assibilation in Hitt. *tiyanzi* "they place" (one might have expected **šīyanzi*, cf. *šiuš*, Gk. *Zeús* ← **dyēu-s*), exactly parallel to Lat. (*con-*)*diunt* "they build", is due to the presence of a laryngeal in the zero-grade of the root, IE **dh_{q1}-y-ont-*, cf. Gk. *τέθηκε* ← **dhe_{q1}-*. Further such examples will lend greater credence to the correspondence PIE **_q* : Anatolian *∅*.

10.2. To elucidate not merely the behavior but also the inherent phonological nature of the PIE laryngeals (i.e., what were they?), we must turn to typological comparisons. There have been many efforts along this line (Bomhard 1980; Colarusso 1975:394-8; Keiler 1970; Lehmann 1952; Sapir 1938). The task is in principle simple. We must find segments in other languages that behave like PIE laryngeals. Here we must realize that we know not merely the phonotactics of the PIE laryngeals, but their history as well. Roughly, the laryngeals went through three stages: (1) an early period when they persisted in all positions and did not color contiguous vowels, (2) a later stage when they persisted in some positions, were possibly lost in others with compensatory lengthening of preceding vowel, and colored contiguous vowels (attested in the Anatolian languages, with relics elsewhere, cf. Gk. *ῥῶμα* ← **_qw-d-ōr* or **_qew-d-ōr*, Alb. *hap*, Gk. *ἄπερ* ← **_q4ep-* [Hamp 1965a:125, §4.1.1]),

and (3) a late, dialectal stage in which they color contiguous vowels, are lost with compensatory lengthening of a preceding vowel and vanish elsewhere (attested in the non-Anatolian branches with exception of the relict forms mentioned in [2]). To a phonologist, such a history tells a great deal. We must find typologically parallel sounds, i.e., they must have the phonological or historical ability to be stable and phonologically inactive, and then be able to undergo changes that preserve their stability while enabling them to color vowels, and finally undergo yet further changes which lead to total instability and loss. This is a considerable amount of information when coupled with the actual vowel-coloring properties which we know the laryngeals to have had, particularly if we construe such vowel-coloring as due to simple phonological assimilation, and I see little reason not to. With all this as a starting point, we shall see that the NWC languages provide a complex, but remarkably detailed and convincing account of what the PIE laryngeals may have been like and how they vanished.

10.3. First, we must note that there have been some false or misleading parallels drawn between NWC and PIE with respect to the laryngeals. Kuipers (1960:105) compares Kabardian /w/ and /y/ with the PIE laryngeals (though we shall see that his comparison of /h/ with them is more to the point), cf. (22).

(22) Kabardian Laryngeal-like Developments:

/əy/ → [ɪ]	/ay/ → [ē]
/əw/ → [ū]	/aw/ → [ō]

The NWC glides exhibit loss, with compensatory lengthening of a preceding vowel after coloring thereof. Effects like this due to glides have been postulated in limited conditions for PIE (cf. Benveniste 1935:63, with **rey-y-* → **rēy-*, Ved. *rāy-*, vs. **rey-ey-* → **rey-i-s*, Ved. *rayí-h*, and Schmitt-Brandt [1967:48, 48], with **g^weywo-* → Gk. βίος, vs. **g^weywo-* → Lat. *vīvus*, and **bh₂wti-* → Gk. φύσις vs. **bh₂wti-* → Skt. *bhūtí-h*),

but such processes are controversial and are overshadowed by the effects of the laryngeals. The trouble with Kabardian glide effects is that /w/, for example, produces [ō] only when the preceding vowel is already low, i.e., when it is an /a/. A preceding /ə/ is raised, backed and rounded to [u], the /w/ combining with this [u] as length. This coloring is basically different from that observed for the PIE laryngeals. For PIE *_ǵ₁ no coloring is observed, merely lengthening. For *_ǵ₂ and *_ǵ₄ both *_e and *_o are mapped into *_ā, for *_ǵ₃ into *_ō. Thus, when coloring occurs in PIE, it is without regard to the original character of the vowel affected. This is not the case with the NWC glides, nor do we find simple lengthening without coloring. The NWC glides do not, therefore, afford a true parallel with the PIE laryngeals.

10.4. Vowel coloring and lengthening involve only one main process in NWC: occasional lowering of a /ə/ to /a/, and then lowering of this and any original /a/'s below their usual "low" articulatory target by a prolongation of their articulatory gesture, i.e., by lengthening. There are three sources for this process (Colarusso in press; 1975:312-29; Kuipers 1960:32-9).

10.5. In the Circassian languages, /-a-a-/ yields [ā] or [ā̃], depending upon consonantal environment, both being long as though two morae were involved (cf. [13b,c], in §7.2). The same is true in Ubykh, (cf. [13d], in §7.2). This is the first source of long /a/ in NWC languages. This process does not occur in the Abkhaz-Abaza branch.

10.6. There is strong evidence that /h/ in /ah/ sequences can have the same effect as the second /a/ in /aa/ (Colarusso in press; 1975:323-8, 390-3; Kuipers 1960:33-4, 37-8). This effect is largely confined to the Circassian languages, cf. (23).

(23) Circassian Initial /h/:

Bzhedukh:

- a. /hadəğa/ → [hadìğə] "Adyghe, Circassian"
- b. /hadəğa/ → /ahdəğa/ → [ādìğə]
- c. /haqəλ/ → [haqùʔλ] "mind, intellect" (Arabic loan)
- d. /haqəλ/ → /ahqəλ/ → [āqùʔλ]

Ubykh has this effect to a very limited extent, cf. (24).

(24) Ubykh Initial /h/:

- a. /hàdəğa/ → [hàdè^ğa^] "Adyghe, Circassian"
- b. /hàdəğa/ → /àhdəğa/ → [àdè^ğa^]
- c. /adəğà/ → [adè^ğà^] *id.*
- d. /hàγ/ → [hày] "no"
- e. /həndà/ → [hè^ndà^] "today, now"

(24b) shows vowel-lengthening due to /h/ in Ubykh. (24c) shows a variant without initial /h/, and (24d, e) show forms in which initial /h/ does not undergo metathesis and vowel-lengthening consequently does not occur. /h/, at least in Circassian, seems to be a glide, ([-consonantal]), and is subject to inversion as is /γ/. Thus one has Bzh. /s-γə-wəna/ "my-possessive prefix-house" = "my house" (alienable possession) → /s-əγ-wəna/ → [sīwùna]. For /h/ word boundary, /#/ , can act (optionally) as a consonant. For non-initial /h/ Kabardian presents clear evidence in the form of its nominal plural marker /-ha/ (Kuipers *ibid.*: 37-8), cf. West Circ. /-χa/, Bzh. and Shapsugh /-χ^ha/. Thus, one has Kab. /ʔə-r/ "man-definite" = "the man", but /ʔə-ha-r/ "man-pl-def" = "the men". Here no metathesis takes place, this being true even when the stem ends in a consonant, cf. /ʔə-ž-ha-r/ "man-old-pl-def" = "the old men". Morphological conditioning is at play, both here and in the examples in (25) where /-ha-/ is suffixed to a pronominal or possessive suffix.

(25) Kabardian /-ha-/ in Prefixes:

- a. /Ø-ya-tχ-ə-Ø/ "it-he-write-trans-pres" = "he is writing it"
- b. /Ø-ya-ha-tχ-ə-Ø/ → /Ø-y-ha-tχ-ə-Ø/ → /Ø-y-ah-tχ-ə-Ø/ → [yātχɪ]
"they are writing it"
- c. /Ø-yə-tχ-ə-nś/ "it-he-write-trans-future" = "he is to write it"
- d. /Ø-yə-ha-tχ-ə-nś/ → /Ø-y-ha-tχ-ə-nś/ → /Ø-y-ah-tχ-ə-nś/ → [yātχɪnś]
- e. /Ø-yə-wəna/ "his-poss-house" = "his house"
- f. /Ø-yə-ha-wəna/ → /Ø-y-ha-wəna/ → /Ø-y-ah-wəna/ → [yāwùnə]
"their house"

The same morphologically conditioned metathesis is at work with /-y-/ in such forms as /cə-ya/ → /c-ya/ → /c-ay/ "wool-the one of" = "Cherkeska" (lit. "the one of wool"), /da-ya/ → /d-ya/ → /d-ay/ "nut-the one of" = "nut tree" (Kuipers *ibid.*:36).

10.7. [ā] in Circassian from /ah/ or /ha/ is distinct from the one derived from /-a-a-/ in that the former persists as a long vowel even when not stressed (cf. [23b, d] and [25d, f]), whereas the latter does not, cf. (26b).

(26) Circassian [ā] Shortening:

Bzhedukh:

- a. /q^hwa-a-šy/ → [q^hwāšy] "pig-its-place" = "pigsty"
- b. /q^hwa-a-šy-ś'way-ar/ → [q^hwāšyś'wèyer] "pig-its-place-dirty-def" = "the dirty pigsty"

All persistent [ā]'s are, therefore, underlyingly /ha/, if initial or preserved in this sequence in related morphemes (as with the Kabardian plural /-ha/), or underlyingly /-ah/, if in the sequence /Cah/. This is not a case of fallacious reasoning: "if some persistent [ā]'s are /ha/ or /ah/, then all must be," i.e., "if some A's are B, then all A's are B." Underlying forms are hypotheses made by the language learner to facilitate his task. Economy dictates, therefore, that if there is

no data that suggest otherwise, the learner will dispose of A and use B along with the rule $B \rightarrow A$ to organize his grammar. Thus, a Bzhedukh child hearing the word [nātrəf] "maize" will posit the underlying form /nahtreɸ/. Given such learning strategies and their crucial role in determining the underlying forms of a language, the "original" long vowels of PIE are highly suspect. Since PIE had the well-developed lengthening processes due to loss of laryngeals and possibly glides (cf. §10.3), it would be very likely that the original long vowels would have been due to loss of earlier laryngeals or other compensatory lengthening processes. Certainly original long vowels would have been possible, but PIE indirectly attests to generations of speakers interpreting long vowels as due to the loss of some segment. This makes it highly likely that the original long vowels had a similar basis. We shall return to the possibility of an "older generation" of laryngeals below (cf. §13).

10.8. The arguments used for non-initial /-ha-/ in Circassian have limited application to Ubykh (Colarusso 1975:325-8), largely because [ā]'s persist in Ubykh regardless of stress. Most Ubykh [ā]'s appear to be /-a-a-/ sequences (cf. [13d]). In old compounds this morphology is moribund and often [ā]'s are shortened, thus [ȳābà] (← /ȳaabà/) alternates with /ȳabà/ "strong, hard" (Vogt 1963:34). Historically, a sequence of vowel plus /h/ seems to have been involved in the plural affixes, cf. (27).

(27) Ubykh Plural Morphemes:

- a. /sə-wə-n-tʷ̀n/ "me-you-he-give-pres" = "he gives me to you"
- b. /sə-wə-nā-tʷ̀n/ ← */sə-wə-n-ah-tʷ̀n/ "they give me to you"
- c. /ṣ̌ʷə-wə-n-tʷ̀-à-n/ ← */ṣ̌ʷə-wə-n-tʷ̀-ḥ-n/ or */ṣ̌ʷə-wə-n-tʷ̀-əḥ-n/ "us-you-he-give-pl-pres" = "he gives us to you"
- d. /a-tət-n/ "the-man-obl" = "the man" (oblique)
- e. /a-tət-n-a/ ← */a-tət-n-h/ or */a-tət-n-əḥ/ "the men" (oblique)
- f. /sə-č̣ʷə/ "my-horse" = "my horse"
- g. /sə-aw-č̣ʷə/ (→ [səč̣ʷə]) ← */sə-h-w-č̣ʷə/ or */sə-əḥ-w-č̣ʷə/ "my horses" (for */-w-/ , cf. Circ. /-yə-/ possessive affix).

The reconstructions of the Ubykh plural morphemes in (27b, c, e, g) are based upon the reasonable assumption that these are cognate with Kab. /-ha/, Bzh. /-χ^ha/ (nouns), /-χ^h/ (verbs), /-ha-/ (verbal and possessive affixes), (Proto-Circ. */-ha/, */-h/). The reconstruction of the Ubykh /-a-/ plural as */-h-/ is the most likely, for, as we shall see, there is evidence in Abkhaz to lead us to expect that */-əh-/ would have coincided with */-ah-/ at an early stage. What is interesting about the Ubykh plural is the evidence which it provides for the reflex of a syllabified */h/, viz., we find a low vowel, /a/. This taken together with the fact that the /h/ in /ah/ in Circassian behaves in a fashion highly similar to the second /a/ in /aa/ is very strong evidence that the NWC low vowel shares some phonological feature with this laryngeal, viz., they are both [+low] (Colarusso in press; 1975: 403-9; 1978). We have strong typological evidence, therefore, that some of the PIE laryngeals may have been [+low].

10.9. The articulatory gesture behind [+low] is an opening of the oral cavity to enhance resonance. In this state only two articulatory zones remain at which any degree of consonantal closure may be obtained: the pharynx, which we will examine with Abkhaz, and the larynx. Thus, if /ʔ/ is made like a vowel, with open oral cavity, and is [-continuant, -sonorant] (contrary to conventional notions of the laryngeals as sonorants), then the only way these manner features may be fulfilled is through action at the larynx, i.e., its phonation must be stopped. A glottal check is the result. This use of the larynx is particularly clear for laryngeals that are [+low], but is true for other types as well, though these are rare, cf. Abadzakh West Circassian /ʔʷaaʎa/ "boy", with [+high] /ʔʷ/, cf. Bzh. /čʷaaʎa/ *id.* In a few languages /ʔ/ may be [±syllabic]. When syllabified it can yield a low vowel, usually [a], neither front nor back. There are examples of this. One, from Bella Coola (Colarusso in press; 1975:398-402), involves dissimilation in glide sequences, cf. (28).

(28) Bella Coola Glide Dissimilation:

underlying form	/yy/	/ww/	/??/
glide dissimilation	/y?/	/w?/	--
syllabification	/i?/	/u?/	/a?/
vowel-lowering before a laryngeal	/e?/	/o?/	/a?/ (older speakers)
loss and lengthening	[ē]	[ō]	[ā] (younger)

10.10. In PIE there is a striking parallel: Hitt. *ešzi* : *ašanzi* "he is" : "they are". This is sometimes viewed as paradigmatic (Polomé 1965:30-1, fn. 131), a type of metaphony, but the forms cited for this are probably based upon a Hittite tendency to write indifferently either *e* or *a* when /a/ alone is involved, cf. Hitt. *henkan* "death, plague, etc." where almost surely a $*_{\mathfrak{a}2}$ is involved and the vowel should be *a*, cf. Gk. $*ank-$ (ἀν-άγκη-η [Benveniste 1935:154-5]), PGmc. $*anxtō-$ (OHG. *āchta*, OE. *ōht* "hostile pursuit, persecution" [Walde-Hofmann 1965/2:152-5]). Furthermore, this vowel alternation is part of a set in Hittite occurring just where laryngeal theory predicts an alternation of $*_{\mathfrak{a}1}eC-$: $*_{\mathfrak{a}1}C-$, cf. $*_{\mathfrak{a}1}ed-$ (Hitt. *ed-* "to eat") : $*_{\mathfrak{a}1}d-$ (Hitt. *ad-anzi* "they eat"), $*_{\mathfrak{a}1}ep-$ (Hitt. *ep-zi* "he takes") : $*_{\mathfrak{a}1}p-$ (Hitt. *ap-anzi* "they take"). In such cases where *e* vs. *a* carries a phonemic load, the scribes seem to have been more consistent. Many Indo-Europeanists have assumed that $*_{\mathfrak{a}1} = */?/$, so that Hitt. *ašanzi* ← $*/?s-on-t-i/$ with syllabic $*/?/$ (cf., for example, Hamp 1965a:124; Winter 1965c:193, fn. 13 [with $*/?s-ŋti/$]). The Greek vocalism has caused some concern and has been viewed as an analogical restitution from the *e*-grade singular (Cowgill 1965: 167-9): Attic ἐστὶ "he is", εἰσὶ "they are" ← $*\acute{\epsilon}\epsilon\nu\sigma\acute{\iota}$ (cf. Myc. *e-e-si*), Dor. ἐντὶ, non-Attic ἐόντι-, with assumed developments $*esenti \rightarrow *ehenti \rightarrow *\acute{\epsilon}\epsilon\nu\sigma\acute{\iota} \rightarrow$ Dor. ἐντὶ, and $*es\acute{o}nti \rightarrow *eh\acute{o}nti \rightarrow$ non-Attic ἐόντι-. Note, however, that $*_{\mathfrak{a}1}$ gives evidence of vocalizing to *ε* elsewhere in Greek, e.g., ἔδω "I eat" ($*_{\mathfrak{a}1}ed-$), ἐδῆδώς pf. part. ($*_{\mathfrak{a}1}de-_{\mathfrak{a}1}d-$). Thus, Hittite and Greek differ in their vocalization of $*/?/$ ($*_{\mathfrak{a}1}$). Surprisingly, we find typological evidence from the NWC languages for precisely this dif-

ference as well.

10.11. We saw that Bella Coola /ʔ/ acted as a glide and vocalized as [a]. But whether a given laryngeal is treated as a glide or a consonant or is vocalised as a low or a mid vowel seems to be language specific. Hence, we spoke of consonantal articulations in the laryngeal region, contrary to most accepted theory. In the Circassian languages we saw that the laryngeal /h/ acted like a glide, undergoing metathesis as did /y/. West Circassian /ʔ/ and /ʔʷ/ never behave as glides, but pattern exactly like consonants, thus Bzh. /ʔa/ "hand", never */aʔ/ or *[ā], /tʔʷə/ "two", never */tʔʷə/. In East Circassian, however, the last word gives evidence that in this branch Proto-Circassian */ʔʷ/ was treated as a glide, thus Kab. /tʔəw/ "two" ← */tʔʷə/ ← */tʔʷə/, with glide-metathesis as with /h/ and /y/. Note also, that the Kabardian form shows no evidence of lowering before */ʔʷ/, i.e., we do not find */tʔʷəw/. No lowering is found before the glottal stops in West Circassian either, cf. Bzh. /ə-ʔʷə/ "his lips" → /ə-ʔʷ/, never */a-ʔʷ/, and /ə-ʔa/ "his hand" → /ə-ʔ/, never */a-ʔ/. Therefore, /ʔ/ is one segment that we can expect to vocalize as either [ɛ] or [a], just as the evidence in Greek and Hittite suggest. This stands as a well-attested typological tendency. In effect we are dealing with a laryngeal that is [-high, -back, -low, +consonantal], a kind of consonantal /ɛ/ or, within the NWC languages, the consonantal counterpart to /ə/ since this is also [-high, -back, -low]. Note that, if a laryngeal were to be consonantal and non-low, it would have to be non-back, otherwise it would be some sort of velar or uvular occlusive. Therefore, our theory of laryngeals (cf. Colarusso forthcoming *a* for further details) provides an elegant explanation for the fact that consonantal, non-low /ʔ/ in the Circassian languages shows no coloring effects, i.e., its feature matrix consists of all negative feature specifications as far as point of articulation features are concerned. In this sense, the lucky choice of the notation "ə", at least for *_{Q1}, in PIE is quite accurate: *_{Q1} was apparently a consonantal form of a schwa-like segment

(at least /ə/ in the NWC sense as a mere syllabic peak with no inherent coloring), though of course there need not have been a true schwa vowel counterpart in the PIE phonemic inventory. Such a PIE */?/, or perhaps better */?̥/ or */?̯/ would have behaved like the other laryngeals, syllabifying or vanishing with compensatory lengthening of a preceding vowel, but having no vowel-coloring effects. Only in one dialect branch, Anatolian, did PIE * ə_1 have a syllabic allophone that was [+low]. When it was syllabified in Hellenic, it yielded the expected front, mid vowel form /ε/, Gk. "ε".

10.12. From the NWC evidence we may conclude that */?/ is a prime candidate for PIE * ə_1 , an equation often made (Bomhard 1980; Lehmann 1952:108; Sturtevant 1951). /h/ is an excellent candidate for * ə_4 , if one wishes to posit another α -coloring laryngeal. Bomhard (1980), in an interesting typological study, and following Hopper (1977a:49-50), Lehmann (*op. cit.*:108) and Sturtevant (*op. cit.*:§76), has equated * ə_4 with /h/, but * ə_2 with /x/, a voiceless velar or uvular spirant. Clearly if one posits two α -coloring laryngeals, there must be a difference between them, but we will argue later against either velar or uvular interpretations of any laryngeal (cf. §15). Finally, * ə_3 , the most enigmatic laryngeal, is often interpreted as a voiced velar or uvular spirant with non-distinctive rounding, /ɣ/ → [ɣʷ]. This too we shall argue against later. Although there is no precise parallel to this laryngeal among the NWC languages, there is much data on rounding: Kab. /c'ək'w/ "little" → [c'ɪɣk'w], Bzh. /ə-?wə/ "his lips" → [əɣ'w], /š'hə-w/ "horse-predicative" = "being on horseback/a horseman" → [š'hū]. That a feature [+round] was part of * ə_3 is indicated by the fact that it left an intervocalic /-w-/ in a number of languages when it was syllabified but followed by a vowel, cf. * $\text{de}_{\text{ə}_3}$ -m- (Attic δέδωμεν), * $\text{d}_{\text{ə}_3}$ -en- (Cypr. δόφεναι, Skt. *dāvāne*) (Martinet 1953). To find evidence for a laryngeal segment with α -color, we have to turn briefly to the North American Indian language Tonkawa (Hoijer 1946), which has a system of Schwebeablaut (based on deletion processes, cf. §8.5), and traces of three vowel-col-

oring laryngeals, which have been preserved in certain positions as /h/ (Calvert Watkins p.c.), cf. (29).

(29) Tonkawa Laryngeals and Schwebeablaut (Hoijer *op. cit.*:293-5):

- a. /yamaxa-/ root: "to paint the face"
- b. /yamxa-no?/ "he is painting his face"
- c. /ke-ymaxaxa-no?/ (/kē-maxa-no?/ ?) "he is painting my face"
- d. /yakap-/ root: "to hit"
- e. /ke-ykap-o?/ (/kē-kap-o?/ ?) "he hits me"
- f. /yaka-kap-o?/ ← /yaka-ykap-o?/ "he hits him repeatedly",
CVCV- reduplication and *glide* → Ø/V___C.
- g. /hepa-/ root: "to fall" (*e*-coloring)
- h. /xē-pa-co?/ ← /xa-hpa-co?/ "several fall hard"
- i. /hapi-/ root: "to attack" (*a*-coloring)
- j. /kā-pi-lo?/ ← /ke-hpi-lo?/ "they attack me"
- k. /hō?oxaw-/ root: "to steal" (*o*-coloring)
- l. /kō-?oxaw-o?/ ← /ke-h?oxaw-o?/ "he steals me"

Forms (29a-f) exhibit Schwebeablaut through syncope, (29f) also showing the conditions for glide-loss. (29g-l) exhibit the coloring effects of the three laryngeals that must have been present in Proto-Tonkawa, (29g, h) *e*-coloring, (29i, j) *a*-coloring, (29k, l) *o*-coloring. (29g, i, k) also indicate that these earlier laryngeals colored the first vowel of the root as well. Finally, the loss of /h/ in (29h, j, l) is precisely parallel to the loss of /y/ in (29f), indicating that the three Proto-Tonkawa "laryngeals" were in fact just that, laryngeal glides. Crucial for our purposes is the fact that Tonkawa is a sort of North American Hittite: the laryngeals persist as /h/. Of course, there are instances of persistent * ḫ_3 in Anatolian as well, cf. Hitt. *ḫaštāi*, Luw. *ḫašša*- "bone" (Gk. ὀστέον), Luw. *ḫawi*-, Hier. Luw. *hawis* "sheep" (Lat. *ovis*) (Puhvel 1965:88), though of course the orthography does not tell us the value of *ḫ*. The NWC languages together with Tonkawa point toward a segment [+low, +round] for * ḫ_3 , i.e., something like /h^w/ or /ʔ^w/. We may

safely conclude, therefore, that there is strong typological evidence that the PIE "laryngeals" were indeed laryngeals at some point in their history.

10.13. The only real challenge to our analysis of the PIE laryngeals seems to come from some of the Salishan languages, where pharyngeals can be seen to lower vowels or color them to [ɑ] (Mattina 1979). This seems, however, to be largely a co-articulatory effect. The gesture for [+constricted pharynx] pulls the tongue body somewhat down and back as the tongue root is pulled back (Colarusso 1975:337; Perrell 1972:136, 139, fn. 21). Thus, while low vowels are not pharyngealized, the low back vowels are near the pharynx and one seems to find a kind of gestural assimilation between low back vowels and pharyngeals. This may be viewed as a process similar to the palatalizing of velar stops to palato-alveolar affricates, rather than to palatal stops, cf. (30).

(30) Types of Palatalization:

- a. velar → palatal:
- | | | | | |
|--|--|---|--|--|
| k | i | → | kʲ | i |
| $\begin{vmatrix} +\text{high} \\ +\text{back} \end{vmatrix}$ | $\begin{vmatrix} +\text{high} \\ -\text{back} \end{vmatrix}$ | | $\begin{vmatrix} +\text{high} \\ -\text{back} \end{vmatrix}$ | $\begin{vmatrix} +\text{high} \\ -\text{back} \end{vmatrix}$ |
- b. velar → palato-alveolar affricate:
- | | | | | |
|--|--|---|--|--|
| k | i | → | č | i |
| $\begin{vmatrix} +\text{high} \\ +\text{back} \end{vmatrix}$ | $\begin{vmatrix} +\text{high} \\ -\text{back} \end{vmatrix}$ | | $\begin{vmatrix} +\text{high} \\ -\text{back} \\ +\text{coronal} \\ +\text{delayed release} \end{vmatrix}$ | $\begin{vmatrix} +\text{high} \\ -\text{back} \end{vmatrix}$ |

Thus, while (30a) may be in some abstract sense the simpler phonological change, (30b) is actually far more common due, apparently, to ease of articulation. Note that the pharyngeals in NWC fail to lower vowels (Colarusso in press; 1975:338-9), contrary to some claims (Kuipers 1960: 22-3), cf. Kabardian where both /ə/, /a/ and [ā] are found next to /ħ/, /dəħən/ "to carry something with someone's help", /dəħən/ "to enter (a

narrow space)", [dəḥā] ← /Ø-də-ḥə-a-ah/ "he-into-enter-in-past" = "he entered (a narrow space)". In some of the Northeast Caucasian languages with pharyngealized vowels (Colarusso in press; 1975:341-4; Catford 1977:294-5), vowel height is independent of pharyngealization, thus Tsakhur has both /w/ and /û/ (pharyngealized) opposed to /a/ and /â/ (Ibragimov 1974:34-7). Therefore, it may not be necessary to produce low, back vowels around pharyngeals, but it may be easy. Nevertheless, the most straightforward source, and also an easy one (unlike [30a]), for low vowels are the laryngeals, and we may feel confident that we have some very strong arguments in favor of [+low, ±round] PIE laryngeals, at least at stage 3 of their history when they were coloring vowels and vanishing. So much for the synchronic nature of the laryngeals in late PIE. We must turn now to typological considerations of the possible sources of laryngeals, i.e., we must find typological parallels to the 3 stages of the history of the PIE laryngeals which we outlined in §10.2.

11. Typological Parallels in the NWC Languages for the Origin and History of the PIE Laryngeals:

11.1. The NWC languages show that pharyngeals can give rise to laryngeals. It seems that pharyngeals are the only articulation that can combine with [+low] to produce multiply articulated consonants, all other zones of articulation not permitting a radical constriction of the oral cavity without conflicting with the open oral cavity characteristic of [+low] (Colarusso 1975:405-8; 1978). Furthermore, we should expect laryngeals, if they are non-syllabic vowel-like segments, to occur with any of the modifications which we find with vowels. For example, since we find nasalized vowels, we might expect to find nasalized laryngeals and in fact in Nenets Samoyed we find a nasalized /ʔⁿ/ opposed to a plain /ʔ/ (Terešenko 1966a:377). Since we find pharyngealized vowels in some Salishan languages (Mattina 1979) and a few Northeast Caucasian languages (cf. §§10.13, 11.5), we should also expect to

find pharyngealized laryngeals, which we do. Such laryngeals are usually [+low], perhaps as a result of the synergistic effects between pharyngeals and low vowels which we discussed in §10.13. Unlike nasalization, however, pharyngealization is not merely a secondary resonance feature, but also represents a distinct articulatory zone. Thus, pharyngealized laryngeals have the status of multiply articulated consonants, much like African / $\widehat{k}p$ / or Georgian / $t'k'$ / or / $t'q'$ / (Colarusso in press). Such multiply articulated segments are found in a number of languages. The Northeast Caucasian language Chechen (Nakh sub-group) has many pharyngealized consonants, among which is a pharyngealized glottal stop, / $\bar{ʔ}$ /, opposed to / $ʔ$ / (Catford 1970:2). The North American Wakashan family has a similar contrast, cf. Nitinat with / ʕʔ / vs. plain / h / and / $ʔ$ /, and the closely related Nootka with both / $\widehat{h}h$ / and / ʕʔ / vs. / h / and / $ʔ$ / (Jacobsen 1969:125-7) (it is not clear whether these are [+low] pharyngeals or pharyngealized laryngeals, in which case they would be better written as / \bar{h} / and / $\bar{ʔ}$ / respectively). In the NWC languages a similar tendency may be seen in the West Circassian tendency to realize pharyngeals with a distinct laryngeal component, / ħ / → [$\widehat{h}h$], / ʕ / (only in Arabic loans) → [ʕħ] or [$ħ$]. Similar tendencies occur in the Ashkharwa dialect of Abkhaz (Colarusso in press, 1975:181; Catford 1970, 1972; Allen 1965a:119; Lomtadze 1954:11ff.), / ħ / → [h], [$\widehat{h}h$] or [h], / ʕ / → [ʕ], [ʕħ] or [$ħ$]. The Ashkharwa tendencies seem to have been generalized in the other Abkhaz dialects to more or less obligatory phonological rules. The pharyngeals, therefore, seem to have been the source of the laryngeals in the other Abkhaz dialects.

11.2. In an Anatolian dialect of Abkhaz (Dumézil 1967:10), Proto-Abkhaz-Abaza (PAA) */ ħ / has yielded / h /. Elsewhere, */ ħ / is preserved, along with its rounded counterpart */ ħ^w / which persists even in Anatolian Abkhaz. The fate of */ ʕ / has been different. Although it is preserved as an underlying, systematic phoneme, / ʕ /, this / ʕ / is realized in the Bzyb, Abzhi(-Samurzakan) and Anatolian dialects as [a], perhaps [$ħ$], rendered in the national orthography as *aa*. This laryngeal real-

ization of /ɣ/, just like the laryngeal /h/ in Circassian, causes lowering and lengthening of a vowel. There are two facts that point to /ɣ/ as underlying *aa*. First, there is a rule spread throughout the NWC group that voices a verbal index when it occurs immediately before a transitive verb root that begins with a voiced segment. Thus, /-s-/ "I" becomes /-z-/ in the Abkhaz form /y-s-bà-wyt'/ "it/them-I-see-pres" = "I see it/them". With /-h-/ "we" in this position, one would expect /-ɣ-/. One finds instead a lowered and lengthened vowel (Bgaž^wba 1971: 76), cf. (31).

(31) Abkhaz Verbal Index-Voicing:

- a. /y-s-bà-wyt'/ "it/them-I-see-pres" = "I see it/them" (underlying form)
- b. /yəs**h**àwyt'/ ə-epenthesis
- c. /y**ə**zbòwyt'/ index-voicing and vowel-coloring
- d. /y**ə**zbòyt'/ glide-loss and compensatory lengthening
- e. /y-h-bà-wyt'/ "it/them-we-see-pres" = "we see it/them" (underlying form)
- f. /y**ə**h**h**àwyt'/ ə-epenthesis
- g. /y**ə**ɣbàwyt'/ index-voicing
- h. /y**ə**h**h**àwyt'/ ɣ-lowering
- i. /y**ə**h**h**bòwyt'/ vowel-coloring: α-coloring of /ə/ before /h/ and o-coloring of /a/ before /w/
- j. /y**ə**h**h**bòyt'/ glide-loss and compensatory lengthening

The derivation in (31e-j) is the only natural way to account for an [ā] where one would have expected */əɣ/. Note that in (31i) the rule of vowel-coloring treats /h/(← /ɣ/) just like a glide. So too in (31j), both /h/ and /w/ vanish, with compensatory lengthening of the preceding vowel. /h/ in Abkhaz, once produced, is obviously treated as a glide. We may note that the form /w-ah-bòt'/(= /w-h-ba-wt'/ ?) "we see you (masc.)" in Anatolian Abkhaz (Dumézil *op. cit.*:31, §30) is either an error or an icon elicited in its underlying form. The following assimilations show further evidence that /ɣ/ underlies *aa* (Bgažba 1964:110):

Abzhwi *ataac^wa* (/a-taʃc^wa/) → Bzyb /a-taḥc^wà/ "family", Abzhwi *ax^waa^w-tra* (/a-x^wʃax^wt-ra/ or /a-x^waʃx^wt-ra/) → Bzyb /a-x^wḥax^wt-ra/ "to trade; trade", Bzyb /a-k'əɫḥa-ra/ → Abzhwi *ak'əɫaa^wa* (/a-k'əɫʃa-ra/) "opening". Finally, Abaza and Ashkharwa Abkhaz /ʃa/ corresponds to Bzyb and Abzhwi *aa*, cf. Abaza, Ashkharwa /-rʃa/ agentive suffix, Bzyb and Abzhwi *-raa*, Abaza and Ashkharwa /-ʃa-/ "down, back, beneath" (prefix on verbs), Bzyb and Abzhwi *-aa-*, Abaza /-ʃa-/ prefix on verbs denoting either "hither" direction of activity or activity distant from the speaker, Ashkharwa /-ʃa-/ "hither", Bzyb and Abzhwi *-aa-* "hither", all prefixes on verbs. Abaza forms with /ʃ/ are even rendered into Abkhaz linguistic works by means of *aa* (Bgažba *op. cit.*:145), Abaza /ḥ^wsəsa-rʃa/ "maiden" written as ḥ^wsəsa-raa.

11.3. The second fact pointing to /ʃ/ as underlying *aa* is the fact that we know *aa* cannot be /aa/ because there is a pan-Abkhaz-Abaza rule which simplifies all vowel sequences by deleting the first vowel. Thus, we can have Bzyb /s-ṁə/ "my head", /a-ṁə/ "the head", but in a root which itself begins in a vowel we have Bzyb /s-aḥ/ "my prince", /aḥ/ "prince/the prince" (/a-aḥ/ "the prince" → /aḥ/). Abkhaz *aa*, therefore, must contain a consonant. It is clear from this consideration and those in the preceding section that we must posit /ʃ/ as an underlying abstract segment in Bzyb and Abzhwi Abkhaz.

11.4. The preceding sections have shown that one of the most likely antecedents to a laryngeal is an earlier pharyngeal. Of course, there are numerous instances of PIE *p and *s becoming /h/ in a number of daughter languages, but these segments cannot be of concern to us here because they appear to be preserved within the mother language at all recoverable stages of its history. Therefore, to gain a further understanding of how the PIE laryngeals may have evolved, we must look closely at the behavior of pharyngeals, in particular how they differ from laryngeals. It is in this way that we may find evidence that earlier pharyngeals underly some of the PIE laryngeals.

11.5. Pharyngeals and pharyngealized segments have a rather surprising property: they front things, vowels especially. This is the "emphatic softening" of Trubetzkoy (1931:10-2; 1958:124) (cf. Colarusso 1975:336-45; 1978). This is a phonetic effect. Pharyngealization produces a low frequency, formant-like noise of considerable power, this being responsible for the "muddy", "thick", or "dark" quality often attributed to such sounds. When combined with other formants, however, such a low formant mimics the low formant characteristic of front vowels and other sonorants made in the front of the mouth, the results being often interpreted as fronting. Such effects are surprisingly widespread. In some Northeast Caucasian languages pharyngealized vowels (ɸ) occur. In certain dialects, these have been reinterpreted as front vowels, Tsakhur /t'ôx/ → dial. /t'öx/ "rope", Rutulian /gât'/ → dial. /gät'/ "cat" (!) (Ĵeiranišvili 1959:343). The same effect is apparent in some Interior Salishan languages, cf. Columbian /ḥáčem/ → [ḥáčem] (Kinkade 1967), and in the history of Semitic, cf. (32) (Colarusso 1978).

(32) Semitic Emphatic Softening (Pharyngeal Fronting):

Akkadian:

- a. /ipte/ ← /iptē/ ← */iptah/ "he opened" (*petû* "to open")
- b. /bēlu/ ← */baʕlu/ "lord, owner, possessor"
- c. /erēbu/ ← */ʕarābu/ "to enter" (with vowel harmony)

Hebrew:

- d. /heḥsīr/ ← /ḥāsēr/ "to cause to be lacking"
- e. /heylā/ ← /gālā/ "to wander, go into exile, depart" (/g/ is inherently pharyngealized)

Mandaic:

- f. /tēt/ ← */taḥt/ "under"
- g. /rēmā/ ← */raʕmā/ "thunder"

The NWC languages follow suit. Ubykh, with its numerous pharyngealized uvulars and labials, offers excellent examples. In (33) spectrographic data has been used (Colarusso 1975:219-92, 341; 1978) to determine the

11.6. A final point about the NWC pharyngeals is their tendency toward skewing in both their synchronic and diachronic development. In (34) we see how certain members of the PAA pharyngeal system are preserved while others tend toward low laryngeals or toward fronted glides.

(34) Proto-Abkhaz-Abaza Pharyngeal Developments:

PAA	Abaza	Ashkharwa	Bzyb	Abzhwi	Anatolian
*/ḥ/	/ḥ/	/ḥ/ ([ḥ] [ḥḥ] [ḥ])	/ḥ/	/ḥ/	/h/
*/ʕ/	/ʕ/	/ʕ/ ([ʕ] [ʕḥ] [ḥ])	/ʕ/ ([ḥ])	/ʕ/ ([ḥ])	/ʕ/ ([ḥ])
*/ḥʷ/	/ḥʷ/	/ḥʷ/	/ḥʷ/	/ḥʷ/	/ḥʷ/
*/ʕʷ/	/ʕʷ/	/ʕʷ/	/ʕʷ/	/ʕʷ/ ([ḥʷ])	/ʕʷ/ ([ḥʷ] [ḥʷ])

PNWC */ḥ/ was preserved in Circassian, but was lowered in Ubykh to /h/, cf. Bzh. /ḥaw/ "no", Ubykh /hàʔ/ (PNWC */ḥa-/), while */ʕ/ was lowered to Circ. /ʔ/, but was preserved in Ubykh to eventually become a pharyngealized uvular, cf. Bzh. /ʔaaya/ "bad", Kab. /ʔay/, Ubykh / (mə-)ḡwà/ (PNWC */-ʕà-ya/ for Circassian, */-ʕə-wà/ for Ubykh). Both PNWC pharyngeals were preserved in early PAA and became pharyngealized uvulars, cf. Ubykh /ḡwəpḡxə/ "foster child" (lit. "son - fosterling") ← */(qʷa-)pḡxə/ ← PNWC */pə-ʕə/ "son - fosterling", Bzh. /pʔʷə/ "student, foster child" ← PNWC */pə-w-ʕə/, Bzyb /à-ḡwəpḡxə/ ← */à-ḡwəpḡxə/ ← */à-qʷə-pḡxə/ (lit. "the-son-fosterling") ← PNWC */pə-ʕa/. Thus, the history of the pharyngeals can be complex and varying, some persisting and others shifting into front glide or vowel forms or low laryngeal forms. The pharyngeal zone is, therefore, very rich phonologically and can present us with a wealth of possibilities in our typological study of the PIE laryngeals.

11.7. We may now reinterpret our 3 stages in the history of the PIE laryngeals (§10.2). In stage (1), when the PIE laryngeals were stable and showed no vowel-coloring, they were likely to have been pharyngeal spirants (cf. Gamkrelidze 1968:96). In stage (2), when they were persistent in most positions, but showed vowel-coloring effects (cf. Anatolian), they were likely to have been multiply articulated pharyngeals, i.e., pharyngeal-laryngeal spirants. Such segments are stable, but can show vowel-coloring effects. Finally, in stage (3), when they were no longer stable, but colored vowels, were syllabified in some dialects in certain positions, and were lost with compensatory lengthening of a preceding vowel, they had become laryngeals. If *_{Q1}

were */ʔ/, then it is possible, though there is little evidence for this (cf. §13.4), that this came from a yet earlier */ɬ/ via pharyngeal fronting to a laryngeal (cf. PNWC */ɬ/ → Circ. /ʔ/, which has no coloring). PIE * ə_2 may go back to a stage (1) */h/ or */ɬ/, which as * $[\text{h}^{\text{h}}]$ or * $[\text{ɬ}^{\text{h}}]$ in Anlaut in Hittite would have persisted, while PIE * ə_4 may always have been */h/, vanishing in Hittite as it did elsewhere. Both laryngeals would have been α -coloring. PIE * ə_3 may have been */ʔ^w/ or */h^w/, but both may have gone back to some sort of rounded pharyngeal, either */h^w/ or */ɬ^w/. We shall now briefly survey some of the PIE material to see to what extent data from the daughter languages square with our notions of a complex and rich history behind the laryngeals.

12. PIE Evidence for a Complex Laryngeal History:

12.1. The following section is set forth with some reluctance since it might be construed by some as a license to start wildly speculating about the number of PIE laryngeals and concocting unsound etymologies. Clearly the single most important guide to sound historical work is sober attention to the data. Furthermore, if we now have a good notion as to the type of laryngeals that might have lain behind PIE * ə_1 , * ə_2 , * ə_3 , why bother speculating about earlier antecedents? First, we do know something about the history of the PIE laryngeals (the 3 stages), and any account of these segments should explain their past as well. Second, there is nagging evidence from the daughter languages that some of the facts may be best explained by several varieties of laryngeals, hence the old questions as to how many laryngeal there were. Thus, a cautious investigation is warranted.

12.2. For many workers the Anatolian data on laryngeals take precedence over any internal patterns the laryngeals may be assumed to have taken: thus, the debate over whether or not PIE could have vowel initial roots, or whether these too began in a laryngeal that has not been preserved in Anatolian. Yet, the laryngeals were first posited on the

basis of internal evidence alone. Some workers have recognized the limits of Anatolian and have posited more than 3 laryngeals on the basis of patterns within PIE (Puhvel 1965:92). One of these laryngeals, lost in Anatolian, has even gained some currency, viz., $*\text{ǵ}_4$ (Polomé 1965:13ff; Kuryłowicz 1935:28-30). Thus, we have $*\text{ǵ}_2$ in Hitt. *ḫanti* "in front, before, separately", *ḫanza* "foreside, front", Lat. *ante* "before", Gk. ἀντί "over, against" (PIE $*\text{ǵ}_2\text{ent-}$), but $*\text{ǵ}_4$ in Hitt. *ap(p)a* "afterwards", Lyc. *epñ*, Hier. Luw. *apan*, Gk. ἀπό "from", ἄψ "backwards, back, again", Lat. *ab* "from", *absque* "without", Alb. *hap* (Vaccarizzo /ɣáp-/ , Sophikō /háp-/) "open" (PIE $*\text{ǵ}_4\text{ep-}[o]$). The Albanian forms may even have preserved $*\text{ǵ}_4$ (Hamp 1965a:125, §4.1.1).

12.3. There is a tendency in the literature to attribute phonological behavior to a single laryngeal rather than to a phonological feature characterizing a class of laryngeals. Reconstructing a feature, rather than a segment, though strange, is phonologically quite sound and natural. For example, Winter (1965b:109-11, 113) argues for $*\text{ǵ}_{\text{ǵ}_1}$ → $*\text{ǵh}$ in Indo-Iranian, being skeptical of $*\text{ǵ}_{\text{ǵ}_3}$ in Lat. *ego*, Gk. ἐγώ(ν), Skt. *ahám*. He takes Skt. *mahā*, *mahī-*, Gk. μέγα as reflecting $*\text{meg}_{\text{ǵ}_1-\text{ǵ}_2}$, with $*-\text{ǵ}_2$ an old collective. This is probably correct as Tokh. B *māka*, *makāts* (gen.) is inflected as a plural. Gk. μέγεθος probably reflects the simple stem in $*\text{meg}_{\text{ǵ}_1-\text{ǵh-o-s}}$. He chooses, however, to ignore the vocalic evidence for $*\text{ǵ}_2$ in the Greek forms γνάθος, γναθμός in favor of a stem $*\text{gen-}_{\text{ǵ}_1-}$. One expects the syllabic form of $*\text{ǵ}_2$ to yield Gk. α, that of $*\text{ǵ}_1$ Gk. ε. He also ignores the -α- in Gk. θυγάτηρ and takes the -α- in Tokharian from words for "mother" and "father", but the simple fact is that if $*\text{ǵ}_1$ had been involved, one would have expected Tokh. A **tkēcar* or **ckēcar*, B **tkēcer*, rather than A *ckācar*, B *tkācer* (cf. also Hamp 1970 for further efforts to find $*\text{ǵ}_1$ here). This is to ignore attested facts, however, for analogical speculations, something to be done only with the utmost caution. Furthermore, it is not necessary. The evidence indicates that $*\text{ǵ}_1$, $*\text{ǵ}_2$, and $*\text{ǵ}_3$ all aspirate a preceding voiced stop in Indo-Iranian. The proper conclusion is not that only

one of these really does this, the others being illusory, but rather that all three share some feature that is responsible for this phenomenon. Though a form $*_{\mathfrak{z}_1}eg\text{-}\mathfrak{z}_1\text{-}$, $*_{\mathfrak{z}_1}g\text{-}o\mathfrak{z}_1\text{-}$ may underly the forms for "I", it is better to posit $*_{\mathfrak{z}_1}eg\text{-}\mathfrak{z}_3\text{-}$ and variants as $*_{\mathfrak{z}_3}$ is defined on the basis of non-alternating $*o$ and there are no known forms $*eg\bar{e}$, etc. (Goth. *ik* is from the unstressed PGmc. $*ika(n)$, the stressed $*éka(n) \rightarrow$ OIce. *ek* [Hempel 1966:51-2], and not from $*ike(n)$). Thus, we have $*_{\mathfrak{z}_1}g\text{-}e\mathfrak{z}_3\text{-}$ (theme II) \rightarrow Gk. $\acute{\epsilon}\gamma\acute{\omega}(\nu)$, $*_{\mathfrak{z}_1}eg\text{-}\mathfrak{z}_3\text{-}$ (theme I) \rightarrow Skt. *ahám*, Arm. *es*, and probably Hitt. *uqqa* (/ekʷkʷa/ or /egʷa/ \leftarrow $*_{\mathfrak{z}_1}ek^{\bar{w}}\text{-}\mathfrak{z}_3\text{-}$, with $*_{\mathfrak{z}_3}$ [+round]). Theme I would have given Lat. $*eg$ and II Lat. $*g\bar{o}$, so that leveling or analogical change here would be likely, cf. $*_{\mathfrak{z}_1}eg\text{-}e\mathfrak{z}_3 \rightarrow$ Lat. $*eg\bar{o} \rightarrow$ *ego*, via iambic shortening (Buck 1933:95), a form with a restored full-grade in the root. Therefore, we seem to have a $*_{\mathfrak{z}_3}$ which aspirated voiced stops in Indo-Iranian. Various grades of $*meg\text{-}\mathfrak{z}_1\text{-}(\mathfrak{z}_2\text{-})$ seem to account for the daughter forms: $*meg\text{-}\mathfrak{z}_1\text{-}$ \rightarrow Skt. *mah* (can occur as an independent word, cf. Lindeman 1970:82; Grassmann 1964:1019), Gk. $\mu\acute{\epsilon}\gamma\epsilon\theta\omicron\varsigma$, Hitt. *mekkiš* (with $-kk\text{-}$ or $-g\text{-}$ \leftarrow $*\text{-}k\mathfrak{z}_1\text{-}$ and perhaps $-i\text{-}$ due to the front nature of $*_{\mathfrak{z}_1}$), $*meg\text{-}\mathfrak{z}_1\text{-}\mathfrak{z}_2\text{-}$ \rightarrow Skt. *mahi* (also an independent word, cf. Grassmann 1964:1012; MacDonell 1910:108), Gk. $\mu\acute{\epsilon}\gamma\alpha$, Tokh. B *māka*, *makāts* (gen.), $*meg\text{-}\mathfrak{z}_1\text{-}e\mathfrak{z}_2\text{-}$ (with analogically restored full-grade in the root) \rightarrow Skt. *mahā*, $*meg\text{-}e\mathfrak{z}_1\text{-}$ (anal. \leftarrow $*mg\text{-}e\mathfrak{z}_1\text{-}$) \rightarrow Arm. *mec*. We, therefore, seem to have a $*_{\mathfrak{z}_1}$ that has the same effects in Indo-Iranian as $*_{\mathfrak{z}_3}$. Finally, $*dhug\text{-}\mathfrak{z}_2\text{-}t\bar{e}r \rightarrow$ Gk. $\theta\upsilon\gamma\acute{\alpha}\tau\eta\rho$, Skt. *dhūtíṣ-*, Av. *duḡēdar*, Tokh. B *tkācer*, Arm. *dustr* (where some idiosyncratic cluster developments seem to have led to early loss of laryngeal, cf. Hamp 1970; Winter 1965b:112-3, for dissenting views). Thus, we can add $*_{\mathfrak{z}_2}$ to the other two laryngeals, all three sharing some phonological feature. Given the phonological effects in Indo-Iranian, it is likely that we are dealing with clusters of the form $*g\text{-}h\text{-}$, i.e., that these 3 laryngeals were spirants (but cf. §§12.4, 16.3). What is of interest is that there is one bit of striking evidence that there was another form of $*_{\mathfrak{z}_3}$ with quite different phonological effects.

12.4. The deviant $*_{\mathfrak{z}_3}$ is posited in the verb "to drink", PIE $*p_i-p_{\mathfrak{z}_3}-eti \rightarrow$ Skt. *píbati*, Lat. *bibō*, *bibit*, OIr. *ibid* ($\leftarrow *pibeti$). The Greek root $\pi\omega-$ shows $*pe_{\mathfrak{z}_3}-$, while $\pi\bar{\iota}-C-$, $\pi\bar{\iota}-V-$ seem to be built upon forms of the zero-grade. In any event the absence of $*\beta\omega-$, $*\beta\bar{\iota}-$, $*\beta\bar{\iota}-$ (contrary to Cowgill 1965:174) simply indicates, as may be inferred from forms such as $\theta\upsilon\gamma\acute{\alpha}\tau\eta\rho$, $\mu\acute{\epsilon}\gamma\alpha$, $\mu\acute{\epsilon}\gamma\epsilon\theta\omicron\varsigma$, that $*C_{\mathfrak{z}_3}$ clusters show no assimilation in Greek. That $*p_{\mathfrak{z}_3} \rightarrow b$ in Sanskrit while $*g_{\mathfrak{z}_3} \rightarrow *gh \rightarrow h$ (Kerns-Schwartz 1940:186f) is phonologically incoherent. No natural rules could produce the two processes from the same $*_{\mathfrak{z}_3}$. If one took $*_{\mathfrak{z}_3}$ to be $*/\zeta^w/$, for instance, one could well imagine a rule that would take $*g_{\mathfrak{z}_3}-$ over to $*gh-$ by reanalyzing the spirant nature of $*/\zeta^w/$ as aspiration in the $*g$. The sequence of $*/p_{\mathfrak{z}_3}-$ would then be expected to yield $*ph$ by a similar reinterpretation of $*/\zeta^w/$. If the voicing of $*/\zeta^w/$ were to cause $*p_{\mathfrak{z}_3}- \rightarrow *b_{\mathfrak{z}_3}-$, then one would expect this new $*b$ to interact with $*_{\mathfrak{z}_3}$ so that $*b_{\mathfrak{z}_3}- \rightarrow *bh$. To obtain $*b$ alone from $*p_{\mathfrak{z}_3}-$ one would have to have a rule that in one step voiced the $*p$ and deleted the $*_{\mathfrak{z}_3}$, and this would be quite unnatural. In fact, all this works better if we assume a Hopper-Gamkrelidze-Ivanov (H-G-I) source feature system for PIE (cf. §3). In this system the root for "to drink" would be based upon an immediate $*/p'/$, which would go back to a zero-grade of $*p^{he}_{\mathfrak{z}_3}-$. We could quite confidently identify this $*_{\mathfrak{z}_3}$ with $*/\text{?}^w/$. The shift $*g_{\mathfrak{z}_3} \rightarrow$ Indo-Iranian $*gh$ would then be reinterpreted as one of $*k'_{\mathfrak{z}_3} \rightarrow *g$, i.e., this $*_{\mathfrak{z}_3}$ must simply be voiced, i.e., $*/\zeta^w/$ (cf. §16.4). The same form of rule would then be operating in both changes, namely, a simple anticipatory assimilation of source features. This elegant explanation of early PIE source feature assimilations has not gone unnoticed (cf. Bomhard 1980) and has been one of the most striking successes of the H-G-I system. Taken with our possibilities for multiple laryngeal forms, i.e., both $*/\text{?}^w/$ and $*/\zeta^w/$ forms for $*_{\mathfrak{z}_3}$, the overall picture is a rather vivid one. We can similarly draw a case for two types of $*_{\mathfrak{z}_2}$.

12.5. The voiceless aspirates of Indo-Iranian, and Armenian, (and

their Greek φ , θ , χ cognates), are generally viewed as late dialectal developments. There is strong evidence that laryngeals may be involved in some of these. One of the clearest etymologies is "to stand", PIE $*ste_{\mathfrak{z}2}$ - and other grades: Attic ἵ-στημι, Dor. ἵ-σταμι, fut. στασῶ; Attic στατός, Lat. *status*, Skt. *sthitá-h*. Here $*_{\mathfrak{z}2}$ seems simply to have caused aspiration in some IE dialects, as seems also to have been the case in $*dhug_{\mathfrak{z}2}tēr$, Gk. θυγάτηρ, Skt. *duhitár*-. If we adopt the H-G-I system, we must reconstruct PIE $*sth_{\mathfrak{e}\mathfrak{z}2}$ - and $*duk'_{\mathfrak{z}2}tēr$. In the first $*_{\mathfrak{z}2}$ preserves aspiration, but causes no voicing, i.e., it must be voiceless, [-lax vocal cords]. In the second, another $*_{\mathfrak{z}2}$ simply causes voicing, i.e., it must be voiced, [+lax vocal cords]. (In some IE dialects, e.g., Armenian [Winter 1965b:103-4], there is evidence that all the laryngeals went through a stage of having voiceless reflexes. In Armenian they all act like voiceless spirants, cf. Arm. *ewt'n* "seven", Gk. ἑπτά, Lat. *septem* [with Arm. -w- ← $*-f$ - ← $*-p$ -], Arm. *canawt'* "know", Gk. γνωτός [$*gn-e_{\mathfrak{z}3}-tó-s$], Arm. *aławt'k'* "prayer" [$*p'_{\mathfrak{z}3}-ti-$], Lat. *plōrō*, *implōrō* [$*ple_{\mathfrak{z}3}-$]. This may be dismissed as a dialect development, especially when it is realized that a simple assimilation process, H_1C_2 where 1 assimilates to 2 in source features, may be involved, all the Armenian forms involving a sequence $*-_{\mathfrak{z}2}-t-$. For loss of voicing contrasts, we should also keep in mind the collapse of PNWC $*/h/$ and $*/s/$ into Proto-Abkhaz-Abaza $*/q/$, $*/q̣w/$ [§11.6].) We could, therefore, reconstruct $*/sth_{\mathfrak{e}h}$ - with the first $*_{\mathfrak{z}2} = */h/$, and $*/duk'_{\mathfrak{z}2}tēr$ with the second $*_{\mathfrak{z}2} = */s/$. An added advantage to positing pharyngeals is their ability to explain the peculiar vocalizations of these laryngeals, Skt. *i*, and *a* elsewhere, the schwa primum. The *a* variant would be due to a [+low] syllabic allophone, e.g., $*/h/ \rightarrow [\text{h}h]$ or $[h]$, while the *i* forms would represent the fronting effects of pharyngeal emphatic softening, even when syllabified, as we saw in Bzyb $*/\mathfrak{z}w/ \rightarrow [\ddot{u}]$, e.g., $*\mathfrak{z}_{\mathfrak{z}2}C-$ or $*\mathfrak{z}_{\mathfrak{z}2}C-$ goes to Skt. *i*. While this analysis may be more complex than the classical one with the usual PIE source features, it is nonetheless straightforward and provides a phonologically natural explanation for the peculiarities of schwa primum vocalizations.

12.6. Having suggested a voiced \sim voiceless contrast for two types of $*\mathfrak{z}_2$, it should be noted that Anatolian orthographies provide some slight evidence for such an opposition (Puhvel 1965:80-6, 92; but cf. Gamkrelidze 1967:92-3). There is the variation between Hittite $-\mathfrak{h}_-$ and $-\mathfrak{h}\mathfrak{h}_-$. Contrary to what would be expected from the Sturtevant Rule, Hitt. $-\mathfrak{h}\mathfrak{h}_-$ corresponds to Lyc. $-g-$, cf. Hier. Luv. *huhas* "grandfather", Hitt. *huhhaš*, Lyc. *xuga-*, though as hypochoristic terms are involved this data may have slight probative value.

12.7. Watkins (1965a:120-1) has called attention to the peculiar variations in some forms between the reflexes of what appear to be PIE $*V\mathfrak{z}_3$ and $*aw$, cf. Lith. *úostas* "rivermouth; harbor", Lat. *ostium*, *os*, Indo-Iranian *ās-* (all with $*\bar{o} \leftarrow *V\mathfrak{z}_3$), vs. OPruss. *austo* "mouth", OCS. *usta*, Skt. *ósṭha-* (all with $*aw$); Lith. *úoga* "berry", OCS. *(j)agoda* (PIE $*\bar{o}g-$ "grow"), vs. Skt. *ós-as-* "force", *ug-rá-h* "strong", Av. *(aš)-aošah-* "that with great force", *aoš-(išta-)* superl., Lat. *aug-e-ō* "to increase", Goth. *auk-an* "to grow", and within Lithuanian itself *áug-u* (PIE $*awg-$ "grow") (Pisani 1947:108); Lith. *gúotas* "herd" ($*\bar{o}$) vs. *gaujà* "troop" ($*aw$), but Gk. *βόσκω*, *βότηρ*, *βώτωρ* (with $*\mathfrak{z}_3$ and $*V\mathfrak{z}_3$); Lith. *duobė* "pit", *dúobti* "hollow out" ($*\bar{o}$), vs. *daubà* "gully", OPruss. *pa-daubis* "valley", Goth. *diups* "deep" (with $*ew$ in Gmc. and therefore probably $*ow$ ablaut in Baltic). Lindeman (1967:1190) suggests an alternation between $*\mathfrak{z}_3e\mathfrak{z}_1-es$ and a neuter in $*-us$, $*\mathfrak{z}_3e\mathfrak{z}_1-us$ for the variation $*\bar{o} \sim *aw-$ in the forms seen in "mouth" and its derivatives. While clever, this explanation is not available for such verbal forms as "grow". A more plausible explanation is that there was some dialectal confusion in PIE between $*\mathfrak{z}_3$, $*w$, $*\mathfrak{z}w$ and $*w\mathfrak{z}$, all highly likely if we assume $*\mathfrak{z}_3 = */\mathfrak{z}^w/$, $*/\mathfrak{h}^w/$ or $*/\mathfrak{z}^w/$. Some interesting laryngeal insights may be gained from this hypothesis. First, if we note the apparent $*e \sim *o$ variation between the Baltic and Germanic forms for "pit", "deep", etc., then we may posit a confusion in PIE between $*/\mathfrak{z}^w/$, $*/w/$, $*/w\mathfrak{z}/$ and $*/\mathfrak{z}^w/$, all phonetically highly likely. The cluster variant $*/dew?p^h-$ (in the H-G-I system), would account then for the rare PIE $*b$ ($\leftarrow */p^h/$

← */ʔp^h/, cf. §12.4 where */ʔw/ has the same effects), while at the same time explaining the lack of vowel-coloring, with Lith. *duobė*, *dúob-ti* going back to an earlier */deʔw^hp^h-/ with vowel-coloring. This explanation receives further unexpected support when it is seen that the only other form known to me which seems to have PIE *b may also have this rare segment explained by means of a similar confusion between */ʔw/, */wʔ/, etc.: thus Gk. ὀλυβρόν "smooth" (Hesych.) (*/lʔw^hp^h-/, */ʔwl^hp^h-/), Lat. *lūbricus* (*/lʔw^hp^h-/), OE. *slīpor*, Norw. *slīpra* "to slide" (*/[s-]lʔw^h[e]p^h-/), OHG. *slīfan* (*/[s-]lʔw^h[e]p^h-/ ?), with leveling among these forms leading to generalization of */p'/ (classic *b), and further Lat. *lēvis* "smooth" (*/leʔw-y-s/), Gk. λεῖος (*/leʔw-yo-s/), and perhaps OE. *līm* "lime, birdlime" (*/leʔw-m-/ ?). Our theory has an unexpected and highly attractive bonus: we can explain nearly all the difficult details of the three forms that clearly contain a PIE *b while at the same time showing that this *b is itself due to details of a laryngeal, */ʔw/ or */ʔ/, in combination with some other labial stop, which we have chosen in most cases to represent as */p^h/ (classic *p) where evidence as to its exact nature is lacking. In other words, the three clear instances of PIE */p'/ (*b) are the automatic result of laryngeal effects that are also needed to explain the difficult details of vocalism in the forms in question. PIE */p'/ (*b) can, therefore, be eliminated altogether. More information may yet be gleaned from these *ō ~ *aw forms. The forms for "grow" indicate that a laryngeal in Anlaut must be overshadowed by a laryngeal in Auslaut, cf. Lat. *aug-e-ō* ← *ǵ₂ew-g- with a-coloring, but Lith. *úoga* ← *ǵ₂eǵ₃-g- with the laryngeal in Auslaut dominating. The Sanskrit form *ug-rá-h* would be quite naturally *ǵ₂w-g-. Furthermore, the peculiar Hittite form for "mouth", *aiš*, may have a similar explanation, also involving varying vowel grades. Lindeman's development, *ǵ₃eǵ₁-os → *ahas → *ahes → *aes → Hitt. *aiš*, via a series of hypothetical Proto-Anatolian forms, though perhaps plausible, is quite *ad hoc*. Furthermore, it goes against the evidence that Auslaut laryngeals dominate in vowel-coloring, as well as against the tendency for well-established cases of *ǵ₃ (of whatever sort)

in initial position to be reflected as *h*- in Anatolian, cf. Hitt. *haštāi* "bone", Gk. ὀστέον, Luw. *ḫawiš* "sheep" (cf. §§12.9, 13.5, 16.3), (i.e., if Lindeman were correct, we would expect Hitt. **ḫeiš*, Luw. **ḫēš*), and it relegates the zero-grade forms of the oblique cases, Hitt. *iššaš* (gen.), *išši* (dat.-loc.), to the status of peculiar Hittite developments. It also leaves the apparent Luwian forms, *āš* (nom.-acc. sg.), *āšš(a-)* (pl.), without *-i-*, quite outside the Proto-Anatolian developments that were supposed to have led up to the Hittite forms. Since the material for this root outside of Anatolian indicates what we believe to be some dialectal variation, and we know that this variation could take place even within a dialect, cf. Skt. *ās-*, *ṛaṭha-*, it seems plausible to assume that a similar confusion may lie within Anatolian. The Luwian form, *āš*, would continue directly **ḡ₄eŋ^w-s* (or with **/-ḫ^w-/*) with this variant of **ḡ₃* vanishing in Auslaut, while Hitt. *aiš* must reflect a history *aiš* ← **awyš* ← **ḡ₄ewŋ^s-s*, with vowel cluster simplification in Auslaut and with *-y-* due to the fronting effects of the pharyngeal (cf. §13.2), the oblique stem, *išš-*, being the normal form of a root **ḡ₄ey-C* : **ḡ₄y-C-V-*. If our analysis is correct, then the Luwian oblique stem, if it ever turns up, should be **ušš-*, with the syllabified **/ŋ^w/* vocalizing to *-u-* (again cf. §13.2). Finally, we may try to trace sets such as Attic τραῦμα, τειρωσκη, Ionic τρωμα (Cowgill 1965:179) back to an alternation **/treŋ^w-/* ~ **/tr(e)ŋ^w-/* with the first giving the forms in *-ω-*, and the second giving *-αυ-* through the *α*-coloring effects of a [+low] allophone of **/ŋ/*, cf. Gk. θυγάτηρ, probably with **/ŋ/* (cf. §§12.3, 16.2).

12.8. It is clear that most forms of **ḡ₃* vanish in Auslaut in Anatolian, **ḡ₄eŋ^w-* in Lat. *ōs*, Luw. *āš*, **/p^heŋ^w-/* in Gk. (πέ-)πω-(κα), Hitt. *pāš-zi* "he takes a swallow" (Winter 1965c:197), undetermined in **deḡ₃-* in Gk. (δύ-)δω-(μυ) "give", Hitt. *dāi* "he takes", as well as in *C__V*, **/p^hŋ^w-/* in Hitt. *paš-zi* "he drinks, swallows" (Bomhard 1980), Lat. *bibit*, Skt. *pībati*, cf. also the similar loss of **ḡ₁* in Hitt. *tiy-anzi* "they place" (§10.1). Laryngeals other than **ḡ₃* also appear in Anatolian to vanish in Auslaut, though certain assimilatory (?) environ-

ments may block this deletion, cf., for example, Hitt. *dā-i* "he places" vs. *teḫ-ḫi* "I place", with variable retention of $*_{\text{q1}}$, Gk. $\tau\acute{\epsilon}\theta\eta\mu\iota$. Not all laryngeals, however, vanish in Auslaut, cf. Hitt. *weḫ-zi*, *waḫ-zi* "he turns", *weḫ-anzi*, *waḫ-anzi* "they turn" (no clear cognates outside Anatolian), *paḫḫur* "fire", Toch. A *por* ($\leftarrow *pāur$), Goth. *fōn* (with *-n* generalized to the nominative from the oblique stem, cf. *funins* gen., Hitt. *paḫḫweni* dat. sg.) (Winter 1965c:192) -- though this form may have undergone metathesis from $*pawḫḫr$, cf. Toch. B *pūwar*, Gk. $\pi\ddot{\upsilon}\rho$, Arm. *hur*, OIce. *fúrr* (a zero-grade ?) -- Hitt. *šeḫur* "urine", OIce. *saurr* "male semen; impurity, filth" (with metathesis in the full-grade, cf. OHG. *sou*, *souwes*, OE. *sēaw*, OIce. *söggr* [Lehmann 1965:213], and in the zero-grade, cf. OIce. *súrr* "sour", OCS. *syrъ* "moist, raw", Gk. $\ddot{\upsilon}\epsilon\lambda$, Toch. B *sūwam* "it rains"), Hitt. *meḫur* "time", Goth. *mēl* "time, hour, season", OHG. *māl* "time", OE. *māl* "mark, sign, measure, fixed time", Lat. *mētior* "to measure, mark off distance (perhaps on a sundial or some other early instrument for measuring time)" (Puhvel 1965:89; Gamkrelidze 1968:92), the last form with no evidence of metathesis. Winter's efforts to see a $*_{\text{q3}}$ in Hitt. *meḫur* by tentatively comparing it to Lat. *moveō* "move", *mōmentum* is semantically less convincing than Puhvel's identification and would seem to be motivated by an effort to reduce, unnecessarily, all these persistent forms to some type of $*_{\text{q3}}$. The coloring of the vowel in Goth. *mēl* points to an *e*-coloring laryngeal, and this accords well with Lat. *mētior*. The coloring effects of the laryngeal in Hitt. *paḫḫur* are unclear. Goth. *fōn* suggests *o*-coloring, while OHG. *fiur* suggests *e*-coloring. Winter (*ibid.*) points to the Hittite dissimilation of $*o$ before a rounded segment: Hitt. *nekuz* "evening", Lat. *nox*; Hitt. *nekumanza* "naked", Goth. *naqaps*. Thus, he would expect an earlier $*ša-ḫur$ ($\leftarrow *soḫur$) behind Hitt. *šeḫur*. These dissimilating $*o$'s in Hittite are said to be those arising from laryngeal coloring, apophonic $*o$ being stable, cf. Hitt. *šakki* "he sees", *šekkweni* "we see", Goth. *sahw*, *sēhwarum*. On a phonological level, however, an /*o*/, regardless of where it came from, should behave consistently. Rather than posit a dissimilation here for *šeḫur*, *nekuz*, *nekumanza*, it may be simplest to accept

these as e -grades, regardless of the vocalism of their cognates elsewhere. The laryngeal in *šeḥur*, therefore, would be some type of $*\varrho_1$, and the Germanic cognates, OIce. *saurr*, *söggr*, OHG. *sou*, etc., would be rare cases of indubitable o -grade before a $*\varrho_1$ of some sort. If this is correct, we may then readily add Lat. *sēmen* to this series of cognates. Whatever their coloring effects, and this is by no means a settled issue, the laryngeals in these three words -- note too that Hittite orthography indicates two kinds, $-h\check{h}-$ and $-h-$ -- persist in Auslaut and this sets them quite apart from the usual reflexes of PIE laryngeals discussed at the outset of this section. I shall examine these words, Hitt. *paḥḥur*, *šeḥur*, *meḥur*, in more detail in §16.4, where I shall suggest a radically different solution to their persistent laryngeals based upon further NWC parallels.

12.9. Though Hittite writes $hu-$ in certain words, it is noteworthy that the reflexes of all forms of $*\varrho_3$ in initial position in Anatolian are simple $h-$, cf. the scanty, but striking, forms Hitt. *ḫaštāi* "bone", Luw. *ḫašša-*, Gk. *ὀστέον*, Arm. *oskr* (all with what is apparently $*/\varphi w/$, cf. §13.5 for details), vs. Luw. *ḫawi-*, Hier. Luw. *hawis* "sheep", Lat. *ovis*, but Arm. *hoviw* "shepherd" (with Arm. $h-$ apparently pointing to either $*/h w/$ or $*/\varphi w/$), cf. again §13.5 (data from Puhvel 1965:88; Winter 1965b:102). One might have expected some indication of rounding in the Anatolian reflexes. All the more so as there is the initial $hu-$ and this is in contrast with $w-$ in some words, cf. Hitt. *ḫuekzi* "he conjures; he slaughters" vs. *wekzi* "he demands" (Puhvel *op. cit.*:87, fn. 21). Some instances of Hitt. $hu-$ clearly reflect the $h-$ reflex of one of the $*\varrho_3$'s of Luw. *ḫawi-* or Hitt. *ḫaštāi*, cf. Hitt. *ḫulana-*, *ḫuliya* "wool" ($\leftarrow *w\varrho_3w-l-$), Gk. *οὔλος* "wooly, woolen" ($\leftarrow *w\varrho_3ew-l-$), and with metathesis Lith. *vīlna*, Lat. *lāna*, Skt. *ūrṇā*, Goth. *wulla* (PGmc. **wulnō* [$\leftarrow *w\varrho_3\varrho_3-n-e\varrho_2$]) -- but cf. Dor. *λαῦνος* with $*\varrho_2$ -- (Walde and Hofmann 1965:2.756-7). Other forms show a $*\varrho_2$, cf. Hitt. *ḫuwant-* "wind", Lat. *ventus* ($\leftarrow *w\varrho_2w-en-t-$), Gk. *ἄνυ* "breathe hard, blow" ($\leftarrow *w\varrho_2w-e\varrho_1-$), Epic *ἄω* ($\leftarrow *w\varrho_2ew-$?). Other forms suggest that a type of rounded laryn-

geal may be involved: Hitt. *ḫuišzi* "he lives", Skt. *vāsati*, though here too, if we are to compare these forms with Gk. *ιάω* "to sleep, pass the night" (\leftarrow $*_{\mathfrak{z}_2}i\text{-}\mathfrak{z}_2ew\text{-}s\text{-}$), aor. $\alpha\epsilon\sigma\alpha$, inf. $\alpha\phi\acute{\epsilon}\sigma(\sigma)\alpha\iota$ (both \leftarrow $*_{\mathfrak{z}_2}w\text{-}es\text{-}$ [Hamp 1965b:234]), we may be dealing with a cluster $*_{\mathfrak{z}_2}w\text{-}$. Only further research will determine if Hitt. *ḫu-* in such forms as *ḫuekzi* involve remnants of an old rounded laryngeal or cluster of laryngeal plus *w*.

12.10. There is another slight indication that rounded laryngeals may have kept their rounding in some Anatolian dialects despite the Luwian and Hittite *ḫ-* reflexes of classic $*_{\mathfrak{z}_3}$, though here too the evidence is frustratingly slight. This rounded laryngeal may be represented by Lycian *q* (Puhvel 1965:84-5). Lycian *q* corresponds to Hieroglyphic Luwian *ḫu*, Hittite *ḫ*, and in forms borrowed outside of Anatolian to a rounded velar, cf. Lyc. *qastti*, *qanuwetti* "punish", Hitt. *ḫaškišzi*, *ḫannai* "judge", Lyc. *qla* "chief", Hitt. *ḫalanta* "head", Lyc. *trqqas* (nom. sg.), *trqqñti* (dat. sg.), Milyan (Lyc. dial.) *trqqiz* (nom. sg.) "god" or "Lyciarch" (?), Hier. Luw. *Tarḫu(nt)*- name of storm god, Anatolian onomastics $\tau\alpha\rho\chi\omicron\nu\delta\alpha\varsigma$, Etruscan *Tarḫu-*, Lat. *Tarquinius*, cf. Hitt. *tarḫ-zi* "he conquers" ($*_{\mathfrak{z}_2}$?). Therefore, it is not impossible that some instances of Luwian *ḫu-*, *-ḫu-* may represent a rounded laryngeal, distinct from the *ḫ-* reflex of classic $*_{\mathfrak{z}_3}$. The speculations here and in §§12.7, 12.8 might be lightly dismissed if it were not for the fact that there is sound evidence for two forms of $*_{\mathfrak{z}_3}$ elsewhere (§§12.2, 12.3, 12.7, 12.8, 12.9, i.e., $*/\mathfrak{z}^w/$, $*/\mathfrak{z}^w/$ and perhaps $*/\mathfrak{h}^w/$). The worth of these hypotheses can only be borne out by careful future research.

13. Evidence for two Generations of Laryngeals in PIE, the PIE Pharyngeals:

13.1. We argued in §10 for a class of segments, laryngeals, that behaved much as do the PIE laryngeals, and in §11 for a class of seg-

ments, the pharyngeals, that not merely resembled the laryngeals, but could also offer an historical source for them. We noted in particular that these pharyngeals could readily vocalize either as a low vowel or a front, often high vowel, a unique pattern of vocalization alternatives. Such a distinctive vocalization pattern would be a powerful tool for arguing for earlier pharyngeal forms of laryngeals in PIE if variations between front and low vowel forms for laryngeals in syllabic position could be found. We have already commented upon the peculiar behavior of the so-called schwa primum (§12.5): $*meg-\varrho_1-\varrho_2 \rightarrow$ Skt. *māhi*, with *i*, but Gk. μέγα, μέγας, with α, where a $*\varrho_2$ is involved. Such variable syllabic reflexes may underly other problems of IE philology.

13.2. Polomé (1965:31, 43 and fn. 195) is reluctant to equate Hitt. *daluki-*, Gk. δολυχός, Skt. *dīrghá-*, precisely because of the odd equation Hitt. *-u-* ~ Gk. *-υ-*. If we attribute schwa primum vocalism to $*\varrho_2$ (perhaps instances of syllabified $*/h/$ or $*/\text{ʃ}/$), then we might posit here a form with a distinct pharyngeal: $*/d\text{ʒ}\text{ʕ}\text{ʔ}gh-/$. Its rounding would account for the *o*-color of the syllabic $*\text{ʔ}_0$ in both Hittite and Greek, as well as the *-u-* vocalism in Hittite, while its pharyngeal nature would account for the high, front vowel, *-υ-*, in Greek. Cf. also Hitt. *kaluti-* "line, list" ($\leftarrow */k\text{ʒ}\text{ʕ}\text{ʔ}d^h\text{ʔ}-/$), Gk. κλῶσυσ "spinning, line, list" ($\leftarrow */k\text{ʒ}\text{ʕ}\text{ʔ}d^h\text{ʔ}-/$), κλῶω "spin" ($\leftarrow */k\text{ʒ}\text{ʕ}\text{ʔ}d^h-/$) (Puhvel 1965:90). We have already made use of a similar pharyngeal fronting in §12.7 to account for the *-i-* ($/y/$) in Hitt. *aiš* "mouth" $\leftarrow *awyš \leftarrow *_{\varrho_4}ew\text{ʕ}-s$.

13.3. While certain front vowels or glides may be due to pharyngeal fronting effects, it is clear that the $/-y-/$ in the diphthongal stems of the Hittite *-hi* conjugation are not as a class exuded from the frequent root final laryngeal (*contra* Puhvel 1965:91-2; Risch 1955). This *-i-*, *-iy-* can be from a $*-y(e/o)-$ present that occurs elsewhere in IE, cf. Hitt. *dāi* "he places", *tiyanzi* "they place", Lat. (*con-*)*diunt* (§§10.1, 12.8). Furthermore, this $*-y-$ of the present has been shown

by Diver (1959) not to have involved a laryngeal. He has shown that in this regard it stands opposed to a denominative $*-y-$ which in fact does appear to be exuded from a laryngeal, contrast Gk. φιλέω, φιλήσω "love", δέω, δήσω "bind", both with an $*-ey- \sim *-ē-$ alternation, vs. τίνω ($\leftarrow *ten-y-$), τείσω ($\leftarrow *τείνσω \leftarrow *ten-y-s-$), τένω fut., τέτακα perf. ($\leftarrow *ten-$, $*tñ-$, respectively) "pay", where simple $*-y-$ is involved. The $*-y-$ of the $*-y(e/o)-$ present cannot, and hence the $-i-$, $-iy-$ of the Hittite diphthongal stems need not, have a laryngeal origin. On the other hand, the $*-y-$ found in certain denominatives in fact does go back to a laryngeal, which from the front nature of the exuded glide and the $-e-$, $-η-$ vocalism in Greek suggest a development $*C?V \rightarrow *CeV \rightarrow *CeeV \rightarrow *CeyV$, without any necessary pharyngeal involvement (here in agreement with Puhvel and Risch as to the behavior of the laryngeal, though not as to the general etymology of $-y-$ in these forms). The only forms that may have laryngeals are Hitt. *ḫuwāi* "he runs", *ḫūyanzi* "they run", Gk. ἄημι "to blow, breathe hard" (?) and Hitt. *piddāi* "he flies", Gk. πέτομαι, πτερόν. In the first, the Greek word is a dubious cognate because of its meaning, though some connection may be possible. In the second, the Greek forms show no evidence for a laryngeal. Accordingly Hitt. *piddāi* may in fact reflect a laryngeal of the denominative, being based upon the noun, meaning "wing (of a bird), feather", and go back to an original meaning of $*"$ to take wing".

13.4. Instances of $*\mathfrak{z}_1$ being preserved in Anatolian are scanty (Puhvel 1965:88). One of the few forms with cognates outside Anatolian is Hitt. *ḫenkan-* "death, disease, plague". Unfortunately, these cognates, where they give evidence for a laryngeal, point toward a $*\mathfrak{z}_2$, cf. PGmc. $*an\chi tō \rightarrow$ OHG. *āhta*, Mod. Germ. *Acht*, OE. *ðht* "hostile pursuit, persecution" (Walde and Hofmann 1965:2.152-5), Gk. ἀνάγκη "force, necessity" (a reduplicated form $C_1VC_2C_3- \rightarrow C_1VC_2-C_1VC_2C_3-$, cf. Ved. *jambh-* "chew up" $\rightarrow jañjabh-$, but with full-grade in the root, cf. Ved. *gam-* "go" $\rightarrow jaṅgam-$ [MacDonell 1910:390, §545.2b]) $\leftarrow \alpha\nu-\acute{\alpha}\gamma\eta-\eta \leftarrow *_{\mathfrak{z}_2}en-$ \mathfrak{z}_2en-k- . Gk. νεκτάρ should have been $*\alpha\nu\epsilon\kappa\tau\acute{\alpha}\rho$, but this may have been

reanalyzed as $*\alpha$ - $\nu\epsilon\kappa\tau\acute{\alpha}\rho$, with an α -privative on a new root $\nu\epsilon\kappa$ -, hence $\nu\epsilon\kappa\acute{\upsilon}\varsigma$, $\nu\epsilon\kappa\rho\acute{\omicron}\varsigma$, etc. (but cf. Hammerich 1967:845-7). Other forms -- OIr. *éa* "death", Bret. *ankou*; OIr. *écen* "necessity, anguish", Bret. *anken*; Lat. *necō* "to kill, murder; slay", Skt. *násati*; Ir. *écht* (+ $*anktu$ -) "vengeance, murder"; OPruss. *nowis* "corpse", Goth. *naus*, *nawis* (gen.), etc. -- point to a remarkable development of the root, but are useless in determining the value of any initial laryngeal as they all go back to a zero-grade. If Hitt. *henkan*- really reflects $*\mathfrak{h}_2$, then one would have expected an α -vocalism, $*\mathfrak{h}ankan$ -, cf. *harkiš* "white". It is possible that this "irregular" *e* is merely a scribal artifact, the result of a tendency to write indifferently either "e" or "a" in words where the contrast carried a low semantic load (cf. §10.10), but it is also possible that the writing *henkan* represents a dialect variant in which the initial \mathfrak{h}_2 - was still fully pharyngeal. If such were the case, this \mathfrak{h}_2 - would not lower vowels, and if it had any coloring effects at all, they would likely be fronting. The "standard" Hittite counterpart to this \mathfrak{h}_2 - would likely then be a pharyngeal with a low laryngeal component and would cause vowel-lowering, as is seen in such forms as *harkiš*.

13.5. We have argued that the PIE laryngeals indeed behaved like true laryngeals, [\pm low]. We have also seen that there is some evidence, some of it strong, that there were several variants of at least two of the laryngeals, $*\mathfrak{h}_2$ and $*\mathfrak{h}_3$. Furthermore, some of the peculiarities of PIE vocalism that have been tentatively linked to laryngeals find plausible explanations if viewed as alternate low or fronted vowels or glides arising from pharyngeals. We obtain a simple, yet powerful, picture of the PIE laryngeals that have survived into Anatolian, if we assume, therefore, that they go back to pharyngeals. Moreover, we may now account for those PIE laryngeals that did not survive into Anatolian (with one exception) as being reflexes of original laryngeal segments. Thus, the second α -coloring laryngeal, $*\mathfrak{h}_4$, would go back to an original $*h/$, $*\mathfrak{h}_1$ back to $*/?/$. Given the apophonic parallels between NWC and PIE (§9.2), such typologically troublesome and unlikely

segments as non-apophonic **a* could readily be explained as due to this **/h/*, while original long vowels could go back to compensatory lengthening processes that might involve, in part, the loss of early **/h/*, **/ʔ/* or **/ʔʷ/*. As original laryngeal segments, **/h/*, **/ʔ/* and **/ʔʷ/* would have been likely to have shown vowel-coloring and perhaps even loss with compensatory lengthening in Auslaut even at a very remote epoch so that their reflexes in certain forms where ancient morphological patterns have been obscured would appear as "original" long vowels and the recovery of the underlying laryngeal would be difficult, cf. adjectives in **-ōtós*, Lith. *ragúotas*, OCS. *rogatŏ* "horned", Gk. *δυνωτός* "turned, rounded" (Watkins 1965a:120), from an earlier **/-eʔʷ-to-s/* (?). By having laryngeal allophones in Auslaut, most of the original pharyngeals would have been lost in Anatolian, but this would also explain why the original laryngeals, **/h/*, **/ʔ/* and **/ʔʷ/*, would have disappeared from this branch. Only in Anlaut (really, initially), are the reflexes of **/ʔʷ/* and the rounded pharyngeals conflated in Anatolian. Perhaps, **/ʔʷ/* took on a pharyngeal articulation in this branch. Here, however, Armenian may be of some help. If we assume that on the whole pharyngeals were more persistent in most of the IE dialects, then we may see a rounded pharyngeal in Arm. *hoviw* "shepherd", Luw. *ḫawi-*, Hier. Luw. *ḫawis*, Lat. *ovis* "sheep"; Arm. *hot* "smell", Lat. *odor*, Gk. *ὄδωδα* perf. and plqpf. We may then assume as a natural phonological consequence of the relative instability of the laryngeal segments that Arm. *ϕ-* : Hitt. *ḫ-* represents PIE **/ʔʷ-/*, cf. Arm. *ost* "branch", Hitt. *ḫašd̪wir*, Gk. *ὄζος*, Goth. *asts*; Arm. *oskr* "bone", Hitt. *ḫaštāi*, Gk. *ὀστέον* (data from Winter 1965b:102, §2.1). Ultimately, in some branches of Anatolian all laryngeals, including the ones that had been stable, may have shifted to *h*-like sounds and disappeared. Thus, Lydian lacks any obvious laryngeals, cf. *λαλλας* (Hesych.) the name of a "Tyrant of the Lydians". This form may be related to Hitt. *lahḫiyalaš* "warrior" (Puhvel 1965:85; Neumann 1961:69-71).

13.6. This picture of the PIE laryngeals and pharyngeals would

closely resemble, therefore, that of the same sounds in the NWC languages. Though complex and admittedly speculative, these proposals offer a wealth of phonologically and typologically sound mechanisms for explaining many of the more obscure details of laryngeal theory in PIE. These proposals try to do for PIE and its daughters what a generative phonologist would try to do for a living language: come up with a rich enough underlying structure (proto-forms) and a set of natural rules that will be rich enough to account for all the data that cannot be morphologically explained away. These goals have led quite naturally to a proliferation of PIE laryngeals, quite in contrast to most modern efforts in historical work to restrict the number of proto-segments, laryngeals in particular, that are posited for PIE. Thus, the present proposals may seem quite odd to most Indo-Europeanists. There is some typological evidence, however, that suggests strongly that PIE should have more segments than present reconstructions give it and that this is particularly true of the PIE laryngeals.

14. The Poverty of the PIE Consonantal System:

14.1. We have made extensive comparisons between PIE and the NWC languages and have found many striking similarities, though these may not have been many of the ones usually alluded to. We have also briefly gone into some of the history of the NWC languages (§8.4). I shall return to such considerations here and point out one further striking typological improbability associated with the PIE consonantal system as it is presently reconstructed.

14.2. In §9, as a conclusion to our considerations of the various sorts of PIE and NWC ablaut, we suggested that the PIE $*e \sim *o$ vowel system was highly marked and that it would be more in accord with the overall picture of ablaut if it were reoriented along the lines of the NWC vertical vowel system, $/\epsilon/ \sim /a/$. If we take such a reassessment seriously -- and if typological arguments carry any force at all, we

certainly should -- then PIE is typologically bizarre in yet another way. Languages with vertical vowel systems get that way by a process in which older normal vowels have given up their coloring to adjacent consonants (Colarusso 1975:379-85), thus: $*Cu \rightarrow *C^w u \rightarrow *C^w \text{ə}$, $*Co \rightarrow *C^w o \rightarrow *C^w \alpha$. Two vowels remain at the end of this process, because the feature [+low] cannot combine with most consonantal articulations and so is left on its original vowel, i.e., as a low /a/. Examples of this process can be found in a number of languages: Ethiopic (with the old language, Gəʕəz, possibly having had a true vertical vowel system), Eth. /kʷəl/ "all", Ar. /kuʕl/, Syr. /kōl/, Hebr. כָּל, כֹּל /kōl/, Ug. kɪl, Akk. *kullatu*; Eth. /ʔəxw/ "brother", ESA ʔḥ, Ar. /ʔax/, Syr. /ʔaḥā/, Hebr. חָך /ʔāḥ/, Ug. ʔḥ, Akk. *aḥu* (Moscatti *et al.* 1964:39, with "ḥ" as *x*); Northeast Caucasian (Avar-Andi-Dido branch) Ginukh (Hinukh) /ʔaqʷə/ "mouse", Dido /ʔaqʷu/, Ginukh /ṽwede/ "day", Dido /ṽudi/, where Dido reflects the earlier state (Lomtadze 1963:20-1). The Ginukh development shows that a vertical vowel system need not be the final result. Nevertheless, vertical systems only seem to come about in this way. Some of the simplest NWC etymologies demonstrating this might be PNWC $*/ću/$ or $*/cu/$ "ox" (we are dealing here with an early neutralization of $*/ć/$ and $*/c/$ before a rounded vowel), Bzh. /ćwə/, Kab. /və/ ($\leftarrow * /ḫwə/$ [cf. Kuipers 1975:30, §32]), Ubykh /cʷə/, Bzyb /a-čw/, Abaza /čwə/; PNWC $* /t'q'ù/$ "two", Bzh. /t'ʔwə/, Kab. /t'əw/, Ubykh /t'q'wə/, Abkhaz /sʷə/ ($\leftarrow * /t'ṣwə/$), Abaza /sʷ-/ . As a result of such processes, the consonantal system always shows many secondary articulations, such as rounding, palatalization, or advancing of the tongue root (a type of palatalization exhibited by Ubykh and Abkhaz-Abaza uvulars). Such secondary articulations are found in Manambu of the Ndu family (Allen and Hurd 1972), with rounded labials and velars, this New Guinea family containing the only other vertical vowel systems extant (*ibid.*; Pike 1964). In the NWC family, such a process has produced some of the largest consonantal inventories known, with numerous types of multiply articulated consonants, cf. Ubykh (35) with 81 consonants (Colarusso 1975:119, 438; 1977:92; Vogt 1963:13), and the Apsuy sub-dialect of Ashkharwa Abkhaz

(36) with 71 (Colarusso 1975:445; Lomtadze 1954:29).

(35) Ubykh Consonantal Inventory:

Labials	p	b	p'	f	-	m	w
Pharyngealized	<u>p</u>	<u>b</u>	<u>p'</u>	-	<u>v</u>	<u>m</u>	<u>w</u>
Alveolars	t	d	t'			n	r
Rounded	t ^w	d ^w	t' ^w				
Affricates, Spirants (Laminal)	c	ʒ	c'	s	z		
Rounded	c ^w	ʒ ^w	c' ^w	s ^w	z ^w		
Apicalized	č	ʒ̣	č'	š	ž		
Alveo-palatals (Rounded)	-	-	-	ś ^w	ž ^w		
Palato-alveolars (Laminal)	čʲ	ʒʲ	č'ʲ	šʲ	žʲ		
Retroflexed	č̣	ʒ̣	č'̣	ṣ̌	ẓ̌		
Laterals	-	-	ɬ'	ɬ	l		
Palatals	kʲ	gʲ	k'ʲ	χ	ǧ		y
Velars (Rounded)	k ^w	g ^w	k' ^w	χ ^w	-		
Uvulars (Advanced Tongue Root)	qʲ	-	q'ʲ	xʲ	ʁʲ		
Plain	q	-	q'	x	ʁ		
Rounded	q ^w	-	q' ^w	x ^w	ʁ ^w		
Pharyngealized	<u>q</u>	-	<u>q'</u>	<u>x</u>	<u>ʁ</u>		
Pharyngealized, Rounded	<u>q</u> ^w	-	<u>q'</u> ^w	<u>x</u> ^w	<u>ʁ</u> ^w		
Laryngeal				h			

14.3. In other words, the PIE consonantal system is very impoverished when compared to its vowel system if the NWC and Ndu languages are a reliable typological guide, as they seem to be. The historical processes that lead to vertical vowel systems will not create consonantal series at new points of articulation, but they will create numerous series with secondary articulations. It is these that are missing from PIE as it now stands, with the sole exception of the rounded ("labio-") velars. I do not wish to suggest that people should go hunting for rounded alveolars, etc., in PIE, but rather that any laryngeal or pharyngeal consonants that are proposed should be quite naturally expected

to have rounded counterparts. Indeed, an absence of these, rather than simplifying the picture, would introduce a degree of typological markedness. This paucity of secondary articulations is a striking typological anomaly that has gone unrecognized because of our previously poor understanding of vertical two-vowel systems and their historical origins.

(36) Consonantal Inventory of Apsuy Sub-Dialect of Ashkharwa Abkhaz:

Labials	p	b	p'	f	v	f'	m	w
Alveolars	t	d	t'				n	r
Rounded	t ^w	d ^w	t' ^w					
Affricates, Spirants (Laminal)	c	ɟ	c'	s	z			
Apicalized, Rounded	č ^w	ǰ ^w	č' ^w	š ^w	ž ^w			
Alveo-palatals, Rounded	-	-	-	ś ^w	ź ^w			
Palato-alveolars (Laminal)	č ^y	ǰ ^y	č' ^y	š ^y	ž ^y			
Retroflexed	č	ǰ	č'	š	ž			
Retroflexed, Rounded	-	-	-	š ^w	ž ^w			
Laterals	ɬ	ɭ	ɬ'	-	-			l
Palatals	k ^y	g ^y	k' ^y	χ ^y	-			y
Velars	k	g	k'	χ	-			
Rounded	k ^w	g ^w	k' ^w	χ ^w	-			
Uvulars (Advanced Tongue Root)	-	-	q' ^y	x ^y	ɣ ^y			
Plain	-	-	q'	x	ɣ			
Rounded	-	-	q' ^w	x ^w	ɣ ^w			
Pharyngealized	-	-	-	χ̤	-			
Rounded	-	-	-	χ̤ ^w	-			
Pharyngeals				ħ	ʕ			
Rounded				ħ ^w	ʕ ^w			

15. The Velar Hypothesis of the PIE Laryngeals:

15.1. Most current typological works on the PIE laryngeals posit a */x/ for *_{q2} and a */ɣ/ for *_{q3} (Bomhard 1980; Hamp 1965a; Lehmann 1952:107-8; Sapir 1938:269-74). Gamkrelidze (1968) is virtually alone

in taking the PIE laryngeals to be pharyngeals but he too views the Anatolian laryngeal reflexes as velar spirants, albeit dialectal developments. Much of the force behind this assumption derives from Hittite orthographic considerations (Puhvel 1965:84-6; Lehmann *op. cit.*:197, §14.7). This is a difficult issue, but much of it boils down to the fact that Hittite laryngeals are usually rendered into Greek by some sort of velar, κ, γ, less often χ. Thus, (data from Puhvel) Hitt. *Ḫazzi* : Gk. Κάσιος, Hitt. *Ḫilakku* : Gk. Κιλικία. This is generally the mode of transcription for cuneiform ḫ into Greek, but cf. Ptolemy's Κολχίς, probably Urartean *Kulḫai*, Χαβώρας : *Ḫabur*, also rendered as Ἀβώρας. Sometimes the same words turn up in different Greek forms, depending upon their path of transmission, so, for example, Anatolian *Ḫarran(u)* : Gk. Κάρραι (via Anatolia), but Gk. Χαρράν via Hebr. חרן /Ḥārān/. The picture is further muddled by such variants as Μητήρ "Ἰπτα or Ἰππα for Hurrian *Ḫebat*, cf. the name (*Pudu*)ḫepa (?). This suggests a considerable amount of confusion on the part of the Greeks in trying to render alien sounds. We should note that a velar was used to denote a voiced pharyngeal: Gk. Γάζα : Hebr. גזז /ʕazzā/, Gk. Γόμορρα : Hebr. עמרה /ʕmōrā/. Velars in Greek do not, therefore, rule out possible pharyngeals. Hittite loans into Ugaritic should show a *x* ~ ḫ ~ *h* contrast, hopefully, since Ugaritic made phonemic use of such a set of oppositions. Unfortunately, the few Hittite loans that occur are ambiguous (Puhvel *op. cit.*:83): *ḫty* "Hittite", *ḫtš* "silver" (reg. Semitic *ksp*, cf. Hebr. כסף /kesef/), the latter probably a Hattic borrowing; the Sumerogram for Ḫattušaš means "silver city".

15.2. This frustrating mixture of forms occurs right within Anatolian itself: (data from Puhvel) Hitt. *kilamni* : *ḫilammar* "gate building", *išḫiṣṣaza* : *iškiṣṣaza* (neut. nom. *iškiṣṣa-* "back"). These may be signs of dialect mixture, but this *k* ~ ḫ confusion is a common one throughout this area, cf. OBabyl. *ḫissatum* : *kissatum* "forced service", NAssyr. *ḫanāšū* : *kanāšū* "subject oneself", LBabyl. *tamāku* : *tamāḫu* (no gloss), Hurrian *kešk/ḫi*, *ḫešk/ḫi* at Boghazköy, *gšḫ-p* at Ras Shamra,

"chair" (cf. the Hurrian loan into Ugaritic, *khš*, and Hittite, *kišhi*-[*ta*]-), Hattic *Kat(t)ahḫaš*, *Ḫatahḫaš*, *Katahgaš*, *Ḫataggaš*, etc., "Queen" (name of a goddess). Such fluctuations over space and through time strongly suggests unsettled scribal conventions for representing sounds alien to the cuneiform syllabary, originally taken from Sumerian, a language poor in gutturals. Taken together with the Greek transcriptions, any hope of deducing the phonological nature of the Anatolian laryngeals from the orthographic evidence seems fairly remote.

15.3. Abandoning orthographic concerns, we must ask ourselves if it is typologically possible that velar or uvular spirants could have been associated with the pharyngeals and laryngeals that we have seen are likely to underly the PIE laryngeals. Unfortunately, to complicate the picture yet further, the answer is "yes". Fortunately, however, the relationship between all these sounds is well defined. The velars, uvulars and laryngeals do not seem to be phonologically interrelated in any way in the NWC languages. On the other hand, the PNWC uvulars have in Abkhaz-Abaza become pharyngeals, while the original pharyngeals, again in Abkhaz-Abaza and in part in Ubykh, have become pharyngealized uvulars (Colarusso 1978), cf. (37) and (38).

(37) PNWC Uvular → Pharyngeal Shift in Abkhaz-Abaza:

PNWC */p(ə/a)-/ "son", */-x(ə/a)-/ "female, young woman"

- a. */pə-w-xə/ → Bzh. /pɣwə/ "daughter"
- b. */pə-xə/ → Shapsugh WCir. /pɣə/ *id.*
- c. */pə-γ-xa-/ → Ubykh /pɣʔà(dəkʔw)/ "young girl"
- d. */pə-xa/ → Abaza /pḥa/, Abkhaz /a-pḥa/ "daughter"

PNWC */-qʰ(ə/à)-/ "pear"

- e. */w-qʰə-/ → Bzh. /qʰwə(ʔə)/ "pear"
- f. */γ-qʰà/ → Ubykh /xʔà/
- g. */qʰà/ → Abkhaz /a-ḥa/

- (38) PNWC Pharyngeal → Pharyngealized Uvular Shift in Abkhaz-Abaza and Ubykh (cf. §11.6):

PNWC */-ʕa-/ "gray/blue/green"

- a. */ʕa-/ → Ubykh /ṽa-q'à/ "blue/green" (/q'à/ a color suffix)
- b. */w-ʕa/ → Bzyb /à-ṽwa/, "gray/blue, ash-colored", Abzhwui /à-ṽxa/

PNWC */λ(ə/a)ḥa/ "mountain"

- c. */λəḥa/ → */-λḥa/ → Bzh. /qʷəśḥa/ "mountain side, mountain forest"
- d. */λəḥà/ → */λḥa/ → Bzyb /à-ṽṽxa/ "mountain", Abzhwui /à-ṽxa/
- e. */λaḥà/ → */λahà/ → */λaxḥà/ → Ubykh /təχà/ "mountain forest"

The shift of uvular spirants to pharyngeals must not be merely language specific, but due to some underlying phonological or phonetic cause, since the same shift sets Hebrew and Syriac apart from the other Semitic languages, cf. Hebr. נח /ʔāḥ/ "brother", Syr. /ʔaḥā/, vs. Ar. خ /ʔax/ (cf. §14.2).

15.4. It is important to keep in mind, however, that while there are typological grounds for deriving pharyngeals from earlier uvulars, uvulars in themselves will not exhibit the vowel-coloring effects that are characteristic of the PIE laryngeals. In the NWC languages, the uvulars as [+back] segments color vowels [+back]. No lowering is observed. If the PIE laryngeals were something like */x/, */χ/, */xʷ/, */χʷ/, part of the velar and labio-velar series and colored vowels as part of their velar nature, then we would expect the IE velar and labio-velar stops to do the same. This objection is the phonological basis behind Watkins' (1965b:182-3) rejection of the velar theory of the PIE laryngeals. The striking point observed by Watkins is that the laryngeal *ǵ₃ does not pattern like the other labio-velars in Italic. The Italic development is PIE *ǵ^hʷ → Proto-Italic *ǵʷ → Lat. /w/, cf. Lat. /niwem/, /woweō/, with non-lengthening, non-coloring /w/. If PIE *ǵ₃ were */χʷ/, then one would have expected */χʷ/ → */w/, with the same

effects as Proto-Italic $*x^w$ (\leftarrow PIE $*gh^w$). One might wish to attribute the laryngeal behavior of these hypothetical (labio-)velar laryngeals to their spirant nature, thus distinguishing them from the (labio-)velar stops. Watkins' argument eliminates this possibility, however, since the reflex of the PIE $*gh^w$ is a spirant as well in Italic, and here it is clear that the laryngeal behaves distinctly from this reflex. This is a strong argument, therefore, that the PIE laryngeals were not (labio-)velar spirants.

15.5. There is some strong evidence, however, that despite the Italic considerations some laryngeals did have velar allophones in some of the daughter languages. Martinet (1953; 1955a; 1955b; 1956; 1957a; see Watkins *op. cit.*:181 for discussion) has called attention to apparent velar reflexes of laryngeals in Italic, cf. Lat. $-trix$ \leftarrow $*-trygs$, Skt. $-trī$, Lat. $senātus$ \leftarrow $*sen-e_2-to-s$, $senex$ \leftarrow $*sen-e_2-s$. The general assumption here is that a laryngeal, probably $*/x/$, is dissimilated to k because of the following s . This is impressive in light of parallel Armenian (Winter 1965b:103-5) and Tocharian (1965c:206-10) evidence. In Armenian $*-gy-$ \rightarrow $č'$ in $*-y(e/o)-$ presents, just as $*-k^wy-$ \rightarrow $č'$, cf. $ač'k'$ "eyes" (\leftarrow $*ok^w-y-$), an old dual with later plural $-k'$ (\leftarrow $*-s$) added, cf. Gk. $ὄσσε$, Toch. B $eś$; note Arm. akn "eye" \leftarrow $*ak'-n$ \leftarrow $*ok^w-$, without this cluster and its effects. The laryngeal parallels are $canawt'$ "known", $čanač'em$ "I know" (\leftarrow $*gn_2-ye-m$), $ačawt'k'$ "prayer", $ačāč'em$ "I implore" \leftarrow $*p_l_2-ye-m$. Furthermore, in certain nouns $*_2 \rightarrow k/_s$, where the $*s$ has later gone to zero, cf. Arm. $mukn$ "mouse", Gk. $μῦς$, Lat. $mūs$, Arm. $jukn$ ($/dzukn/$) "fish", Gk. $ἰχθῦς$, OPruss. $suckans$, from $*mu_2s$, and $*()ghu_2s$, respectively. There are also s and k enlargements of various inflectional forms in Tocharian where a $*_2$ may underly them (s may be of analogical origin [*ibid.*:209]), cf. Toch. B $kwā-$ "to call", vs. $kāka$ preterite-subjunctive "be called" \leftarrow $*kwāka$ (for loss of $-w-$ cf. the labial umlaut in imperatives: B $pokkāka$, A $p_u^1kākāśām$), where $kwā-$ \leftarrow $*ghw-(e)_2-$, Skt. $hāvate$ "call", part. $hūtá-$, OCS. $zъvati$ "call", $kāka$ \leftarrow $*ghw-2-2$. Thus, in Tocharian it seems that

$*-\text{ǵ}-\text{ǵ}- \rightarrow -aka-$, with velar stops emerging through dissimilation before a spirant, in this case another laryngeal, much as with the dissimilation before $(*)s$ in Latin and Armenian. Clearly, we must be prepared to accept velar allophones of some laryngeals. A careful consideration of the data, however, shows that this velar, though arising from a laryngeal, does not itself have laryngeal effects. The Latin forms are crucial here, because these are the only reflexes that simply and unambiguously preserve laryngeal coloring and lengthening. It is clear that in the shift $*sen-e\text{ǵ}_2-to-s \rightarrow sen\acute{a}tus$ the $*\text{ǵ}_2$ has exhibited its normal behavior. In $*sen-e\text{ǵ}_2-s \rightarrow senex$, on the other hand, neither coloring nor lengthening is apparent, yet this is just where one clearly has a velar allophone of $*\text{ǵ}_2$. Therefore, if there was something about a velar that caused laryngeal effects, i.e., if this laryngeal were actually a velar, then we would expect the form $*sen\acute{a}x$ or $*sen\check{a}x$, which, of course, we do not find. The length in $-tr\acute{i}x$ is not a forceful counterexample because it could easily represent an earlier $*-tr\acute{i}x$ with a long vowel restored from a $*-tr\bar{i}$ (Skt. $-tr\bar{i}$). In short, rather than pointing to a velar laryngeal, the Latin evidence merely points to a velar allophone for a laryngeal which, because of its velar nature, lacks any laryngeal properties. We have two strong arguments, Watkins' and, unintentionally, Martinet's, that the PIE laryngeals could not have been velar spirants.

15.6. The velar allophone of some of the laryngeals remains to be accounted for. This is where the pharyngeal to uvular shift which we observed in Abkhaz-Abaza and in Ubykh is useful. We can well picture a shift, taking the predecessor of Lat. *senex* as an example, of the following sort: $*/sen-e\text{ǵ}-s/ \rightarrow */sen-e\bar{x}-s/ \rightarrow */sen-ex-s/ \rightarrow /seneks/$ (*senex*), where the shift of $*/\text{h}/ \rightarrow */\bar{x}/$ (possibly via $*/\bar{q}/$) is found in the shift from PNWC to PAA, and the shift, $*/\bar{x}/ \rightarrow /x/$, is found in going from PAA to the Abzwhi dialect (cf. 39b, d). Note, however, that $*\text{ǵ}_2$ cannot be $*/\bar{x}/$. The only coloring effect that a $*/\bar{x}/$ can have is a fronting one, as we saw with Ubykh (cf. §11.5.[34]), no lowering effects are possible.

While /h/ can have fronting effects, it can, in its allophonic possibilities as [h̥h] and [h], have lowering effects as well. * ə_2 cannot, therefore, be underlyingly either /x/ or / \overline{x} /. If we take it to be a pharyngeal, however, we can explain its lowering effects as well as its tendency to form uvular or velar spirants. The same arguments hold for the rounded laryngeal, * ə_3 . The tendency to shift either way between pharyngeals and pharyngealized uvulars is apparently due to co-articulatory effects, the tongue being somewhat backed with the retraction of the tongue root characteristic of pharyngealization. A pharyngealized uvular being a complex segment with a difficult articulation, it is natural that it be prone to simplification, either to a plain uvular, as in Abzhwi Abkhaz, or to a plain velar, as apparently in some dialects of PIE.

16. Summary of the PIE Laryngeals:

16.1. Now that we have added another potential exotic specimen, a pharyngealized uvular, to the PIE laryngeal zoo, so to speak, it is necessary to summarize our conclusions and see if there is any need for this new segment as a full-fledged laryngeal phoneme, and not just as an allophone. We shall now examine some PIE reconstructions using our laryngeal hypotheses. Since many of our arguments pivoted around laryngeal properties as exhibited in assimilatory phenomena involving consonants, I shall employ the Hopper-Gamkrelidze-Ivanov source feature system. This will make the assimilations the simplest and most natural.

16.2. I argued for the following laryngeals. For * ə_1 in non-assimilatory position, I posited */ ʔ /, cf. */ ʔés -(t^h-i)/ "to be": Skt. *ásti*, Lat. *est*, Goth. *ist*, Hitt. *ešzi*; Gk. *εἶσι* ← **eensi* ← **ehensi* ← **es-en*-; */ ʔs -(é/ó)n-t^h-i/ "they are": Skt. *sánti*, Lat. *sunt*, Goth. *sind*, Hitt. *ašanzi*, Dor. *ἐντι* ← **eenti* ← **esénti*, non-Attic *έόντ*- ← **ehónt*- ← **esónt*-. For one form of * ə_3 I posited */ ʔ^w /, cf. */ p^he^w -/, */- p^he^w -/ "to drink": Skt. *píbatī*, Lat. *bibō*, *bibit*, OIr. *ibid*, Gk.

πω-, πϗV-, πϗC-; */deʔw^hp^h-/ "deep; hollowed out space"; Lith. *duobẽ* "pit", *duobti* "hollow out", but also the variant */d(e/o)wʔp^h-/: Lith. *daubà* "gully", OPruss. *padaubis* "valley", Goth. *diups* "deep". For *₂ I followed earlier workers (Hamp in particular) and posited */h/, */hap-/ "after, back, away, from": Gk. ἀπό, ἄψ, Lat. *ab*, *absque*, Hitt. *ap(p)a* "afterwards, again, back", Hier. Luw. *apan* "back, again", Lyc. *epñ*, Alb. *hap-*, Vaccarizzo dial. /ɣáp-/ , Sophiko dial. /háp-/ "open". This laryngeal is difficult to recover in any but initial position. It is possible that short vowel forms in Sanskrit that never show an *i*-vocalism, but show signs of a voiceless, spirant laryngeal may give evidence for */h/. */h/, because of pharyngeal fronting effects, would be expected to show *i*-vocalism (cf. below). Thus, we may have */h/ in */p^hh(e)l-/ "to shine, sparkle": Skt. *phalgú-h* "reddish, red", Gk. φαλύνει· λαμπρόν-ναι (Hesych.), Arm. *p'ayl* "shine, brightness", *p'aylem* "I shine", *p'ał-p'im* "I shine, glisten", *p'ałp'ałim* "I glow, glisten", *p'ołp'ołim* "I shine, sparkle" (Meillet 1936:35), where the numerous Armenian formations give evidence of a full-grade which, taken with the Greek form, points to an original **a*, hence the posited */h/. These constituted the older, first generation of PIE laryngeals, partially preserved in Albanian, but generally lost elsewhere, even in Anatolian.

16.3. I then dealt with a series of laryngeals which produced voiced aspirates in Indo-Iranian. In the Hopper-Gamkrelidze-Ivanov system, these laryngeals were voiced, producing simple voicing in the preceding stop in those dialects that later gave rise to Indo-Iranian. For this variety of *₂ I posited */ɣ/, */dʷk'ɣt^hē-/ "daughter": Gk. θυγάτηρ, Skt. *duhitār-*, Av. *dugədar*, Toch. B *tkācer*, Arm. *dustr*. For this variety of *₃ I posited */ɣw/, */ʔek'-ɣw-/ , */ʔk'-eɣw(-m)/ "I", with leveling and analogical restoration of full-grade in the root between the reflexes of these forms: Skt. *ahám* (*/ʔek'-ɣw-ém/), Lat. *ego* + **egō* (analogy at work between **eg* [*/ʔek'-ɣw/] and **gō* [*/ʔk'-eɣw/]), OIce. *ek* (PGmc. *éka[n]*), Gk. ἐγώ(ν) (*/ʔk'-eɣw[-m]/), OHitt. *úga* (Lindeman 1970:82, §72), Hitt. *uqqa* (/ek^wk^wa/ or /eg^wa/, where the *ú-*,

u- point to labialization of the following stop[s]). Voiceless varieties of these types of laryngeals may have existed, */*h*/ (*₂) and */*hʷ*/ (*₃); for */*h*/, */*sth_eh*-, */*sth_h*-, "stand": Dor. ἔ-σταῖμι, στάτος, Lat. *status*, Skt. *sthitá-h*; for */*hʷ*/, perhaps (if we follow Hittite orthographic evidence), */*sn_h-hʷ*-, */*sen-hʷ*-, "strive, gain": Gk. **śvū*-μι (**/sn_hhʷ-m-i*/), Skt. *sanóti*, Hitt. *šanhanzi* (both */*sn_hhʷ-én-t_h-i*/), Hitt. *šanhi* (**/senhʷ-t_h-i*/) (Puhvel 1965:91-2). It is also possible that */*hʷ*/ may underlie some of the following forms, where Sanskrit shows a rounded realization of a **ṣ* in one case and an unexplained *-u-* in another: Skt. *sphūrj*- "burst", Gk. σφαγγέομαι "to burst, crackle", Lith. *spūrgas* (with *-ūr-* possibly pointing to **-r_ḡ*-, cf. Watkins 1965a: 117), Lat. *spargō* (← **sparagō* ?) "to scatter, sprinkle" (Burrow 1965:70-1, §3; Meillet 1964:124), where we may posit */*sp^hṛḡhʷg*-, */*sp^hhʷṛg*-/ variants of a stem; Skt. *sphuráti* "throbs, quivers", Lith. *spiriù*, Gk. σπαίρω "to gasp (of a dying fish, hence to flop, thrash about)", Lat. *spermō* "to remove, reject", and perhaps Gk. σφαῖρα "ball" (Buck 1949: 907), pointing to a stem */*sp^hhʷ(e)r(-γ)-*/, perhaps a different vocalic grade of the preceding stem. Thus, */*h*/ and */*hʷ*/ may be considered to lie behind at least some of the voiceless aspirates that have developed in Indo-Iranian, Greek and Armenian. Their spirant *h*-like character would be responsible for preservation or addition of aspiration in the preceding stop. These pharyngeals survive in Anlaut in Anatolian, though it is not possible in most cases of Anlaut and never in initial position to distinguish between voiced and voiceless counterparts, cf. */*t^her(ṣ/h)-*/ "conquer": Hitt. *tarḫ(h)*-, Lat. *-trāre*, *trāns*, Skt. *tiráś*, Av. *tarō*, OIr. *tar*, Welsh *tra-*, *traw* (Hamp 1965b:231; Benveniste 1935: 151); */*(ṣ/h)er-k'-*/ "shining, white": Hitt. *ḫarkiš*, Gk. ἀργής, Lat. *argentum*, Arm. *areat* '(**hareat* ' , with an unstable *h*- from *₂, cf. Winter 1965b:102, §2.1); */*(ṣ/hʷ)ew-*/ "sheep": Luw. *hawī-*, Hier. Luw. *hawis*, Arm. *hoviw* "shepherd", Lat. *ovis* "sheep". We should recall that Armenian data are crucial for distinguishing between the rounded pharyngeals, as in the last word, and */*ʔʷ*/ in initial position, as the latter seems also to have been preserved in initial position in Anatolian, thus

*/?west'-/ "branch": Hitt. *ḫašdwiṛ*, Gk. ὄζος, Goth. *asts*, Arm. *ost* (Winter 1965b:102, §2.1; cf. our §§12.7, 12.9, 13.5).

16.4. In the preceding paragraph we deliberately omitted the $*_{\mathfrak{z}_1}$ that caused voiced aspirates in Indo-Iranian. This causes problems, because we have used up all our laryngeal candidates without accounting for this last change. The simplest thing would be to assume $*/?/$ for this and employ some sort of rule, perhaps $*C? \rightarrow *Ch$. Unfortunately, we must somehow get a voiced segment out of this $*/?/$, unless, of course, we revert back to the classical PIE source feature system, to be faced again with the problem of why we do not get Skt. **píbbhati* or **bíbbhati* (cf. 12.4). There is a voiced glottal stop, /ʔ/, ([+lax vocal cords]), in Jingpho (Halle and Stevens 1971:208-9) and Enets Samoyed (Anderson p.c.; Terešenko 1966b:440), but these are the only known occurrences of this exceedingly rare segment. Though this last exotic possibility cannot be ruled out, it is possible that we are dealing with yet another form of *e*-coloring PIE laryngeal here, perhaps $*/\bar{y}/$. This would be *e*-coloring, voiced, and what is more, as this is not laryngeal, this would persist into Anatolian. This $*/\bar{y}/$ might underly the words for "great, big", $*mek'-\bar{y}-(\mathfrak{z}_2-)/$: Gk. μέγεθος, μέγας, Skt. *mah-*, *máhi*, Hitt. *mek-kiš*. There is some evidence for a voiceless counterpart, $*/\bar{x}/$, $*/(s-)\text{t}^h\bar{x}-k'-/$, $*/(s-)\text{t}^h\bar{x}-k'-/$: Skt. *sthaḡ-* "to cover", Gk. στέγω, Lat. *tegō*. These pharyngealized uvular spirants may also represent those Anatolian laryngeals that persist in Auslaut. Thus, following the Sturtevant rule for Hittite orthography (but cf. 12.6), we may have $*/se\bar{y}wr/$, $*/sew\bar{y}r/$ "moist; urine; sour; impurity" (Hitt. *šeḫur*), $*/me\bar{y}wr/$ "measure, mark off; time, moment of time" (Hitt. *meḫur*), $*/pe\bar{x}wr/$, $*/pew\bar{x}r/$ "fire" (Hitt. *paḫur*), where the pharyngeal component may account for the *e*-coloring in such forms as Lat. *sēmen*, Goth. *mēl*, OHG. *fiur* (cf. §12.8). Here too may lie an explanation for the famous alternation of *-r-*/*-ḫ-* seen in Hitt. *wahnu-*/*warmu-* "burn", where the *-r-* may be an effort to render $*/\bar{y}/$ or a dialect $*/\bar{y}/$. The general sonority of $*/\bar{y}/$ among the NWC languages would make its confusion with */r/* also a simple and natural

explanation for this variation.

16.5. We are now tentatively suggesting a PIE laryngeal system of the sort depicted in (39). Traditional laryngeal equivalents are noted near them.

(39) The Most Elaborate Possible PIE Laryngeal System:

pharyngealized uvulars	(* ₂ 1)	\bar{x}	\bar{y}
pharyngeals	(* ₂ 2)	h	ʕ
rounded	(* ₂ 3)	h ^w	ʕ ^w
laryngeals ("first generation")	(* ₂ 4)	h	(* ₂ 1) ?
rounded			(* ₂ 3) ? ^w

Typologically (39) may seem odd in the absence of plain uvular or velar stops and spirants, but it should be noted that this system is very similar to that in Proto-Semitic, where one has only two plain velars, */k/ and */g/, while the other uvulars are all pharyngealized (actually pharyngealized velars underlyingly) (Moscatti *et al.* 1964:24, §8.3), cf. (40). I have modified the traditional Semitic transcription.

(40) Proto-Semitic "Gutturals":

velar	k	g	-	-
pharyngealized uvulars (velars)	\bar{q}	-	\bar{x}	\bar{y}
pharyngeals			h	ʕ
laryngeals	ʔ		h	

In the history of PIE the system in (39) would have been successively collapsed down toward the laryngeal zone of articulation, at which the segments would have become unstable and subsequently vanished. As to an earlier, though entirely conjectural, stage of PIE lying behind (39), one could envision a system such as that in (41), where the numerous pharyngeals of (39) are now spirants in the velar and labio-velar (uvular ?) series, while the pharyngealized uvulars are now simple pharyn-

geals.

(41) Earliest or Pre-IE "Gutturals":

velars	k ^h	g	k'	x	ɣ
rounded (labio-velars)	k ^{hw}	g ^w	k' ^w	x ^w	ɣ ^w
pharyngeals				ħ	ʕ
laryngeals			ʔ	h	
rounded			ʔ ^w		

The system in (41) is very Caucasian looking. Moreover, the shift from (41) to (39) has its parallel in the PNWC shift to PAA. It is tempting to view all this as an IE-Caucasian areal feature. Subsequent modification and loss of the "laryngeals" in PIE could then be viewed as due to spread of the mother tongue beyond this area and consequent simplification by new speakers of what must have seemed a very difficult and strange system.

16.6. The proposals in this paper have been suggestions with which Indo-Europeanists may work. Whether or not most of these will bear fruit can only be determined by careful comparative work. Surely, in many etymologies involving laryngeals insufficient information has survived to permit any sure determination of the exact nature of the underlying laryngeal and it is in these cases that the traditional cover symbols will be used, now and for the foreseeable future. It is time, however, that more confidence be placed in typological and phonological theory and that we view as highly likely, if not assured, that the PIE laryngeals were some form of pharyngeal or laryngeal consonant, and perhaps even pharyngealized uvulars. The set of possible candidates for the PIE laryngeals may be confidently viewed as limited and well defined, and the phonological and historical behavior of these forms as well understood, albeit complex. The identification of a particular reflex within an etymology as a given segment, */ħ/, */ʕ/, */ʔ^w/, etc. will only rest on detailed etymological work. Major shifts such as

that from the system in (41) to the one in (39) may only be recoverable, if at all, through careful systematic considerations or even external comparison (cf. Bomhard this volume; 1977). Despite such reservations, Indo-Europeanists should now have greater confidence in using the phonological behavior of pharyngeals, laryngeals and pharyngealized uvulars to unravel the difficult and complex patterns found in the reflexes of the PIE laryngeals.

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TPOLOGY VERSUS RECONSTRUCTION

GEORGE DUNKEL
Princeton University

1. Typology and reconstruction are the two poles of linguistic comparison. In the study of literature, religion, etc., the term *comparative* refers to a process of classification according to shared characteristics. But in linguistics, this activity is called *typology*, whereas *comparison* refers specifically to *comparative reconstruction*, i.e., to the use of the comparative method to recover the common ancestor of presumably related languages.¹

The presumption of genetic relationship is the *sine qua non* of comparative reconstruction; typological dissimilarities are in fact commonly ignored if other agreements are systematic enough to indicate common descent. In typology, on the other hand, genetic relation is of minimal importance. The two fields are thus non-overlapping; by nature, each can proceed without reference to the findings of the other.

But in 1958, R. Jakobson suggested that in cases of disagreement between the two, the findings of typology should be more highly valued than those of the comparative method: "a conflict between the reconstructed state of a language and the general laws which typology discovers makes the reconstruction questionable."² Jakobson further pre-

¹Hoenigswald 1973:51.

²Jakobson 1958:23. Similarly, "no diachronic process can be posited which violates a universally valid synchronic norm" (Greenberg et al. 1966:xxiii).

sented several instances, which have since become notorious, of the seeming incompatibility of reconstructed Indo-European with typological facts, e.g., "the one-vowel picture of PIE finds no support in the recorded languages of the world."³ The implication was that reconstructions should be modified to fit the findings of typology.

2. Subsequent discussion bifurcated. On the typological side, evidence from various corners was adduced for the actual existence of one-vowel systems in natural languages. And protests were lodged against the typological theoreticians' unaccountable rejection of such counter-evidence⁴; we may refer to A. H. Kuipers' lucid and justifiably disgusted presentation "Unique Types and Phonological Universals."⁵

3. The other main trend in subsequent discussion was to point out that the reconstructed Indo-European to which Jakobson had objected was largely a straw man. For what Jakobson found to be typologically unparalleled was not Indo-European as reconstructed by the *comparative method* proper, but rather the brutally reductionist *internal reconstructions* of E. Benveniste and J. Kuryłowicz. Although it remains stimulating, this work is increasingly being rejected of late.⁶ The reasons are two.

³Jakobson, *ibid.*

⁴Jakobson's rejection of Allen's Abaza material was the first instance of this practice (Jakobson 1958:34).

⁵Kuipers 1968. Faced with such criticism, Jakobson asserted that even if exceptions to the universals were found, "this result cannot shake the momentous interest of the inquiry" (Jakobson 1966:268). Even if the "momentous interest" was not shaken, the factual basis of Jakobson's claims nonetheless was.

⁶Assertions that Benveniste and Kuryłowicz are standard theory are either totally unsupported (Jakobson) or refer to Lehmann's *Proto-Indo-European Phonology*. This work is remarkable for its general extremism, and for its lack of philological concern with the data; see the selection of blunders noted in Hoenigswald (1954). Cf. also the end of the quote from Kuryłowicz in fn. 8.

First, the arbitrary segmentations and regularizations of Benveniste's procrustean "triliteral" root-theory were simply unproductive.⁷

Next, the laryngeal theories of Kuryłowicz and Benveniste often generalized aprioristically beyond the data. That is, just because *some* instances of **th* happened to go back to an earlier **tA*, or *some* *VC* roots had to be rewritten as *CVC*, or *some* *CVCC* sequences could profitably be segmented as *CVC-C*, this does not mean they *all* had to be treated this way.⁸ Such decisions must be made only on an individual basis, not by means of pattern congruity; pattern, after all, is not supposed to exist until all the evidence is in.

O. Szemerényi's "New Look" is one such call for the rejection of these extremist doctrines, and for a return to simple acceptance of the results of the comparative method.⁹ Szemerényi further points out that the results of "unbiased, non-reductionist reconstruction"¹⁰ happen to be perfectly in accord with our present understanding of linguistic typology.¹¹

⁷Benveniste's disregard for semantic considerations in *Origines* is studied: "nous avons visé avant tout à définir...l'appareil formel. Il importera d'envisager *plus tard* les fonctions des éléments..."; "l'essentiel étant le problème de la structure, nous négligerons *en principe* les questions de 'valeur', d' 'aspect', etc." (Benveniste 1935: 2 and 148, emphasis mine). But neither Benveniste nor his followers have yet succeeded in determining the values of the "suffixes" and "enlargements", and the number of worthwhile new etymologies produced is small.

⁸Note Kuryłowicz' recent words: "Die Rekonstruktion...darf nicht ...allzuweit über die geschichtlich gegebenen Fakten hinausgehen. Man darf nicht isolierte Einzelheiten *in infinitum* zurückverfolgen...Der Quantifikator 'alle', der in manchen dieser Prämissen vorkommt, scheint die Hauptursache des Trugschlusses zu sein... Es ist daher nicht zu verwundern, dass die monovokalistische Hypothese nur kurzlebig war und keinen Anklang gefunden hat" (Kuryłowicz 1976:127-8).

⁹Szemerényi 1967. While I cannot accept all the details of Szemerényi's Indo-European (one laryngeal), or his subservient attitude toward typology (cf. fn. 14), he is clearly right in the matters of the five-vowel system, the existence of voiceless aspirates, and the multiplicity of root-shapes.

¹⁰Szemerényi 1967:87.

¹¹It is disappointing that P. Hopper felt free to simply disregard

4. The preoccupation of subsequent scholarship with the indefensibility of the facts, both typological and reconstructed, in Jakobson's invitation to use typology to correct the comparative method was understandable and welcome. But it has forestalled consideration of the methodological validity of such a procedure at all. Indeed, it has gone unquestioned that reconstructions must correspond to some actually attested type.¹² This assumption has not been doubted even in works explicitly critical of other aspects of the typological approach to reconstruction, e.g., C. Watkins' masterly "Towards PIE Syntax."¹³ Szemerényi's claim that well-reconstructed Indo-European is typologically "acceptable" also sidesteps this issue.¹⁴

Given a clear conflict between comparative reconstruction and typology, in which, let us say, no details are open to doubt or re-interpretation, is it indeed desirable that the reconstruction be modified to conform to typological opinion?

5. Both comparative reconstruction and typology depend greatly on the factor of chance for the preservation of crucial bits of evidence. But the attitudes in the two disciplines towards this dependency differ significantly.

It is not usual in comparatist circles to insist that a reconstruc-

Szemerényi's arguments, and to set up the same straw-man (**t*, **d*, **dh*) to knock down according to his own particular preconceptions (Hopper 1977:42).

¹²And implicitly, to some commonly attested type, since rarity and non-existence are commonly equated in typologists' forays into reconstruction (section 7).

¹³Watkins 1976.

¹⁴In my opinion, Szemerényi actually comes down on the wrong side of the question, since he still uses typological "acceptability" to justify his own reconstruction. His statement that "even if typological studies failed us, we should still be bound in duty to observe the data of reconstruction which are also incompatible with the alleged one-vowel state" (Szemerényi 1967:83) is factually correct, but methodologically inverted.

tion is complete, i.e., that the proto-language could not possibly have contained additional elements which happen to have been lost in all descendant languages and are thus not reconstructable. It is after all well known that "duplicate merger is lost in the comparative method... It is therefore always possible that we have missed a contrast which actually existed."¹⁵

Another reason for the generally admitted non-equivalence of reconstructed languages with the actual proto-language is that the comparative method is itself inherently somewhat reductionist. Since it operates with *recurring* correspondences, linguistic elements which are attested in only one language cannot be used for reconstruction, no matter how archaic they may seem to be, or actually even be. While back-projection of isolated forms on the basis of sound laws arrived at through analysis of recurring correspondences is useful, such forms are not "real," as reconstructions in some sense are.

A final reason for the incomplete nature of reconstructions is the incomplete nature of the evidence itself. This limitation is often painful for the comparative linguist, but there is nothing to be done about it, except to hope for the discovery of additional texts.

6. In contrast, statements to the following effect are remarkably frequent in typologically-based attempts to improve reconstructions: *since no examples of a particular type happen to have yet been found, therefore this type could never have existed in human language*. The practice goes back to Jakobson.¹⁶ What is more remarkable is that a similar certainty is often expressed that future investigation is unlikely ever to yield examples of the feature in question: e.g., "it seems a priori unlikely that a larger sample will disclose examples of

¹⁵Hoenigswald 1960:136.

¹⁶"Skeptical reminders about numerous as yet unexplored languages are hardly convincing" (Jakobson 1966:268).

the supposed PIE stop system...."¹⁷

Typology will in fact never be in a position to make such statements, because it will never have studied all human languages. Many have already vanished without a trace, and many more will do so soon. Others are recorded extremely sketchily and imperfectly. We can never be sure that yesterday was not the last day in the life of the last speaker of a clearly univocalic language.

"The universe seems to be so constructed that complete factual information is unattainable...."¹⁸ Simple humility demands that we admit that no final assertion of the impossibility of any linguistic feature will ever be feasible.

7. If the goal of typology is to systematize descriptive information about the varieties of human language, what explains this generally anti-factual attitude¹⁹ among the typologists who tinker with reconstructions? In particular, why the strange mistreatment of rarity? One cause seems to be the misapplication to typology of methodology appropriate only to other fields.

For instance, comparative reconstruction, as we noted, makes no use of non-recurring data. But there is no need for such a restriction in typology. A non-recurring type is after all *taxonomically* just as worthy of note as a common type. If the evidence of rare types is ig-

¹⁷Hopper 1977:43 -- referring, of course, to the stop system he set up *against* the comparative evidence (fn. 11).

¹⁸Hockett 1966:3.

¹⁹I cannot judge Hopper's handling of the many non-Indo-European languages cited in his study, but I am struck by his philological aporia in matters Indo-European. E.g., his understanding of Hittite stops does not extend to Sturtevant's Law (Hopper 1977:45) or to the outcome of **dy* (*op. cit.*:49); in Greek, he takes **k^wi* > τι as normal and **g^wi* > βι as a "special treatment" (*op. cit.*:48-9), whereas the development **g^whi* > φι (never mentioned), the direction of analogy (**λεῖτε* > *λείπει*, etc.), and the "elsewhere" nature of the labial reflex all argue strongly that labials are in fact the "normal" treatment, and that it is thus **k^wi* > τι which requires special explanation; etc.

nored or treated as meaningless when typologically evaluating reconstructions, the conclusion that a misapplication of criteria basic in comparative reconstruction to typology has taken place imposes itself.

Another evident methodological corruption concerns methods appropriate for statistics and those appropriate for linguistics. Extremely rare phenomena may not be "statistically significant," i.e., they may be ignored, in statistics. But this is emphatically not the case in linguistics, where the importance of the isolated but crucial bit of evidence is universally acknowledged, both diachronically ("la grammaire comparée doit se faire en utilisant les anomalies -- c'est-à-dire les survivances -- bien plus qu'avec les formes régulières")²⁰ and synchronically ("once a phoneme, always a phoneme").

8. Another reason for refusing to use "universals in order to predict new knowledge on the basis of old"²¹ is that there is in fact no reason to expect prediction, projection, or evaluation of any sort from typology. Typology is by nature a descriptive discipline, one which will be complete to any extent only when every available human language has been analyzed. Any generalizations offered in the meantime are simply working hypotheses, theoretically (at least) open to disproof.²² But once every available human language has been studied, what need will there be of prediction? All "universals" will be descriptive facts. Facts of language must be collected, not projected.²³

Opposed to this is the notoriously strong predictive power of the comparative method. This is also due to the nature of the discipline: the comparative method is after all, unlike typology, intimately con-

²⁰Meillet 1931:194.

²¹Hopper 1977:41; shades of Aladdin!

²²"Hypotheses, about language universals or anything else, are by definition proposals to be knocked down, not beliefs to be defended" (Hockett 1966:8).

²³"The only useful generalizations about language are inductive generalizations" (Bloomfield 1953:20).

cerned with time. There is no need to run through the resounding triumphs of the comparative method as applied to, e.g., Indo-European: Arcadian -οῦα, the Mycenaean labiovelars, the Anatolian laryngeals, etc. "Intelligent reconstruction...comes close enough to the 'real thing' to be regarded as quite trustworthy."²⁴

We may note that these repeated proofs of the predictive accuracy of the comparative method have occurred without any help from other disciplines.²⁵

9. Another reason why typology must not be allowed to interfere with comparative reconstruction is the ultimate circularity of such a process, leading to the debasement of the very data base of which typology is so rightly proud. Remaking the data because it does not fit the theory only spuriously reinforces the conclusion that the theory is correct. In fact, such a procedure makes the theory both impossible to disprove and unnecessary to improve.

Watkins has exposed this circularity in much of the typologically-oriented work in Indo-European syntax,²⁶ But his criticisms must be applied as well to typological attempts to modify comparative reconstructions at all levels.

²⁴Hall 1950:23. It is, of course, the "intelligent" that is the problem. Guidelines such as Meillet's maxim quoted in section 7, his three-language principle, or Watkins' "first law of comparative grammar" ("you've got to know what to compare" [Watkins 1976:312]) are only partial aids. It is symptomatic that Hopper (1977:42 and 45) ignores all three.

²⁵The (few) instances in which newly-discovered texts have invalidated comparative reconstructions have demonstrated philological misinterpretation of the data rather than theoretical inadequacy of the technique of reconstruction. E.g., the comparison $\pi\alpha\nu\tau-$: $\acute{s}\acute{a}-\acute{s}\nu\alpha\tau-$ is based on a faulty segmentation of the Vedic item, as indicated within Vedic by the recurrence of $\acute{s}\acute{a}\acute{s}-$ ($\acute{s}\acute{a}\acute{s}ay\acute{a}-$, $\acute{s}\acute{a}\acute{s}\acute{i}yas-$); by the frequency of $-vant-$; and by the ablaut in the suffix (nom. pl. $\acute{s}\acute{a}\acute{s}\nu\acute{a}ntas$, like non-reduplicated $bh\acute{a}rantas$, rather than like reduplicated $b\acute{i}bh\acute{r}atas$). Similarly, the comparison $\acute{o}\tau\epsilon$: $\acute{s}\acute{a} ca$ was invalidated by Arcadian $\acute{o}\tau\epsilon$ (not $\acute{o}\acute{s}\epsilon$) long before the advent of Mycenaean $o-te$; etc.

²⁶Watkins 1976. To his discussion we append the case of H. Miehle

To take a well-known instance from phonology, consider Hopper's statement that "a fairly secure indication" for the correctness of his notions "can be found in the absence of PIE **b*."²⁷ This shows supreme disregard for the "standard handbooks and encyclopedias of Indo-European" which the author is so blasé about.²⁸ In fact, of course, those handbooks show clearly that, although **b* was less frequent than other phonemes, it did occur often enough; certainly much more often than the necessary once: cf. **bel-* "strong," **bak-* "peg, staff," **dheub-* "deep," **ley-b-* "*libare*," etc. Furthermore, just because one -- or even two²⁹ -- instances of **b* go back to **p0* does not mean they all do, much less that **b* did not exist at all.

The mistaken idea that Indo-European had no, or even only one, examples of **b* has led to two types of error.

Much of the work postulating some other system of stop articulation manners for Indo-European than the standard, Sanskrit-like inventory is based on a connection, first proposed by H. Pedersen, between the supposed lack of **b* in Indo-European and the absence of *p* in other stop-systems.³⁰ Once we are aware that infrequency is very different from non-existence, we see that all this work must be rejected without ado.³¹

(1974); on p. 425, note the remarkable statement that "...Vedic did originally have OV orders *despite the evidence* of the preponderance of VO relative constructions" (emphasis mine). No counterevidence could ever provoke the modification or abandonment of the hypothesis. We are instead informed that the language is undergoing change whenever counterexamples do turn up.

We have finally arrived at the reason for that unaccountable confidence that counterexamples will not materialize (section 6): counterexamples are indeed "a priori unlikely" when the theory is a priori unfalsifiable.

²⁷Hopper 1977:44.

²⁸Hopper 1977:42.

²⁹See Dunkel, forthcoming.

³⁰Cf. Rasmussen 1974, with references to the work of Pedersen and rich Soviet bibliography.

³¹And *a fortiori* the derivative studies postulating wider connections with Caucasian, Semitic, etc.

Most disturbing of all is the occasional refusal by Indo-Europeanists to reconstruct new instances of **b*, on the grounds of its own supposed non-existence.³² Here the methodological corruption has come full circle.

10. To sum up: comparative reconstruction admits its dependence on chance, whereas typological reconstruction seems unwilling to do so. Furthermore, comparative reconstruction is performed according to a coherent methodology which has repeatedly proven its accuracy, whereas typological reconstruction is in practice shot through with methodological corruptions from statistics (irrelevance of rarity) and from the comparative method itself (rejection of non-recurring data). Although it is true that none of the preceding shortcomings is inherent in typological reconstruction, it is nonetheless remarkable that they are ubiquitous in such work. Most important is that comparative reconstruction is inherently predictive, whereas typology is inherently descriptive.

We now return to the question posed in section 4. Typology and comparative reconstruction, having different goals, can and must be pursued independently of each other. In the case of an apparent unavoidable contradiction between the two, it would be folly to tamper with the reconstruction to make it support any premature -- or even mature -- typological conclusions. This would bring the corruption full circle, i.e., force the results of misapplied comparative methodology back onto the reconstruction itself.

Nor need we attempt to avoid the issue by invoking the "symbolic and abstract nature" of our reconstructions.³³

If any attempt at resolving the contradiction must be made, the proper course is to confidently accept the results of the comparative

³²See Dunkel, forthcoming.

³³Ramat 1976:193; cf. already Jakobson 1958:24.

method, and to *enter them into the typological data bank*. In the end, the reconstructions arrived at by the independent use of the comparative method, without benefit of premature peeks into the conclusions of typology, may be allowed to make their contribution to our understanding of the typology of human language.

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LANGUAGE TYPOLOGY AND LANGUAGE UNIVERSALS
AND THEIR IMPLICATIONS FOR THE RECONSTRUCTION
OF THE INDO-EUROPEAN STOP SYSTEM

THOMAS V. GAMKRELIDZE
Georgian Academy of Sciences

1. INTRODUCTION:

This paper is divided into two parts. In the first part, I will deal primarily with phonological typology and, in the second part, with the implications of typology for diachronic linguistics, especially as it pertains to the reconstruction of the Proto-Indo-European consonant system. I shall try to show that the traditional system, that is to say, the classical system of stops reconstructed for Proto-Indo-European, is to be reinterpreted, since the classical system does not conform to typological evidence. Thus, that system should be reinterpreted in the direction of bringing it into conformity with the typological evidence, both synchronic and diachronic. In order to bring it into conformity with this typological evidence and to posit a system which is both synchronically and diachronically plausible typologically, it is necessary to posit a system which is totally different from the classical one. It turns out, as I shall try to show, that the Proto-Indo-European system posited in this way is closer to the systems which have been, in traditional grammar, assumed to have been a result of the so-called "consonant shift" ("Lautverschiebung") such as Germanic, Armenian, and, to some extent, Hittite than to those systems traditionally assumed to be in respect of consonantism close to Proto-Indo-European such as Indo-Iranian, Greek, Italic, and so on. The consonant systems which

have been assumed to be conservative such as Indo-Iranian, etc., turn out to be the result of very complex phonological changes which can be described in terms of merger and split rather than in terms of consonant shift. All of these assumptions and all of the analysis are based on a set of typological premises which I shall discuss, especially the question of the problem of markedness of phonemic categories which has been elaborated in classical phonology, in the phonology of the Prague Linguistic School, and which has been developed later in the linguistics of universals and transformational-generative grammar.

2. HISTORICAL AND THEORETICAL BACKGROUND:

Research into the problems of typology and language universals over the past decade has led to enhanced interest into the traditional problems of markedness of linguistic categories. The idea of the presence in a language system of marked and unmarked categories originated in the Prague Linguistic School in the works of Trubetzkoy and Jakobson. In Trubetzkoy's *Principles of Phonology* (translated from the German by Christiane A. M. Baltaxe, 1969), the marked category ("Merkmaltragend") is opposed to the unmarked category ("Merkmallos"). These are the phonological units in "privative opposition". These marked ~ unmarked bundles, which are in privative opposition, are characterized by the property of neutralization in certain phonological environments. By "privative opposition" is meant an opposition of units which are characterized by the presence or absence of one single feature, all other features being the same. For example, the pair /p/ ~ /b/ is in privative opposition, which means that they differ by one feature only and this is the presence or absence of a definite feature, in this case the feature of voice. Now, in certain positions, we have an elimination of this opposition in the sense that this opposition is not manifested in certain phonetic environments. For example, we have an opposition of voiced ~ voiceless in German: this opposition distinguishes the so-called "minimal pairs" such as, for example, *können* and *gönnen*, in which

/k/ ~ /g/ are in privative opposition. In the final position in a word, we have no opposition of a voiced ~ voiceless kind in stops. A word such as *Tag*, for example, is always /tak/. That is to say that the final position is the position of neutralization of the voiced ~ voiceless opposition in German, and, according to Trubetzkoy, in such a position of neutralization, we have the manifestation of the so-called "archiphoneme", which is defined as the unit characterized by the features which are common to the units being in privative opposition. So the archiphoneme, /k/ in this case, is characterized by features common to /g/ and /k/, that is to say, by everything except the feature by which they differ -- the archiphoneme will be defined as a stop and velar without the feature of voice. As a rule (but not always), in positions of neutralization, the unmarked variant of the opposition is manifested, that is to say, in internally conditioned positions of neutralization.

In assimilatory positions of neutralization, we have either the marked unit or the unmarked unit which is represented as the manifestation of the archiphoneme. According to Trubetzkoy, we must speak not of the manifestation of one of the units here in the position of neutralization but of the manifestation of the archiphoneme. We can cite an example here from Georgian, where we have the so-called "harmonic consonant clusters": after voiced consonants, we must have only a voiced consonant; after voiceless aspirates, we must have only a voiceless aspirate; and, after a glottalized, we must have only a glottalized. Now this means that the opposition /d/ ~ /tʰ/ ~ /t'/ (using the dental series for illustration) is neutralized in certain positions. In the final position of a word, we have a neutralization of the opposition voiced ~ voiceless, and, as predicted in the Trubetzkoy theory, the archiphoneme is manifested in the form of the unmarked phoneme, the voiceless, just as in the German example cited earlier. In certain other positions, say in the position after a voiced consonant, we have a neutralization of the voiced ~ voiceless ~ glottalized opposition in favor of the voiced. In terms of Prague phonology, we shall say

that the opposition is neutralized in this position, but the unit which is represented as the archiphoneme is the marked member, that is to say, the unit having the feature of voice. In assimilatory positions, only one unit of the opposition may appear as the representative of the archiphoneme, and it may be either the marked or the unmarked unit depending upon the phonetic environment.

In summary, the notion of marked ~ unmarked in Prague School phonology, as elaborated by Trubetzkoy and later Jakobson, is that of a unit having a feature as opposed to a unit lacking that feature, all other features being equal.

Subsequently, during the intensive development of Descriptive Linguistics, especially American Linguistics, interest in the problem of markedness waned. However, in recent years, in the last decade or so, the traditional problem of markedness of linguistic categories and of establishing hierarchical relationships between the elements in a linguistic system have been given special attention in the study of language universals and linguistic typology. Here again a decisive part was played by later works of Roman Jakobson, in which the traditional problem of markedness underwent substantial development and modification, being treated as some universal hierarchical relationship between linguistic categories. This hierarchical relationship of markedness was applied not only to the phonemic level of language but was used as a category characterizing the morphological level and syntactical level as well. We shall concentrate here primarily upon the problem of markedness at the phonological level.

The problem of markedness and markedness relations play a special role in the theory of linguistic universals and especially in the version of this theory which was initiated by Joseph Greenberg. Greenberg links markedness with the frequency of occurrence of language units. Being more usual and widespread, the unmarked member of the relationship has a higher textual frequency as compared to the marked member, which represents a more complex and textually more limited unit. It is precisely the unmarked member of a phonological opposition that occurs

in positions of internally conditioned neutralization.

H. Pilch, the well-known German phonologist, has introduced the concept of a distinction between phonetic features and phonologically distinctive and phonologically nondistinctive features. He calls all these features "relevant". For example, in a system with an opposition of voiced \sim voiceless, with the voiceless series having the feature of aspiration at the level of realization, we may call all the features making up this series relevant, say for $[p^h]$ $[+labial, +stop, +discontinuous, -voice, +aspiration]$. But to distinguish the feature of aspiration from the phonologically relevant features, Pilch calls this feature "nondistinctive", relevant but nondistinctive. So we have phonemically distinctive features, which are those features which distinguish /p/ from /b/ in this case. But a phonologically redundant feature, which is aspiration in the example given, is relevant but not distinctive.

Such features as the feature of glottalization in unvoiced stops makes the series highly marked in the system. This means that this series is characterized by a lower frequency of occurrence as opposed to the series of stops which is marked by the feature of aspiration, and the series with aspiration is in turn marked as opposed to the plain series, in the sense that the aspirated series is always characterized by a lower frequency of occurrence than the plain series. So, glottalization, or the series as a whole, is marked versus the aspirated series, and the aspirated series is marked versus the plain, nonaspirated series. Now, we should point out that markedness here is being conceived of differently from the concept of the Prague School. We are talking about the feature of glottalization being superimposed on the features making up the bundle $/p'/ \sim /t'/ \sim /k'/$ and the feature of aspiration being superimposed on the features making up the bundle $/p^h/ \sim /t^h/ \sim /k^h/$. That is to say that the aspirated series, for example, consists of the features making up the plain phonemes plus the feature of aspiration. We thus see that the glottalized and aspirated phonemes are not in a relationship of privative opposition. As we know,

privative opposition is an opposition characterized by the presence or absence of one definite feature in the opposed units. Here, we do not have such a relationship, the relationship being, according to Trubetzkoy's terminology, equipollent, that is to say, a relationship defined between any two units of a certain subclass. Only the oppositions between plain ~ aspirated and plain ~ glottalized are privative in Trubetzkoy's sense, because the plain series differs from the non-plain series by one definite feature, aspiration in one case and glottalization in the other. Now, according to Trubetzkoy, the markedness relationship should exist only between the series of phonemes being in privative opposition. In the current concept, however, markedness is conceived of as any series of a definite subsystem being in a certain relationship. If a series is characterized by some statistical evidence of lower frequency of occurrence as opposed to another series, this evidence having been derived from the checking of a great number of languages having such oppositions and showing the same distribution of frequencies, we can say that the series characterized by the higher frequency of occurrence is unmarked, is functionally stronger than the series characterized by the lower frequency of occurrence, which is functionally weaker. It can be empirically found that in a system with plain ~ aspirated ~ glottalized stops, the glottalized is always in the minority -- so to say -- as opposed to the aspirated, and the aspirated is lower as opposed to the plain. So the sequence of increasing markedness will be plain, aspirated, glottalized in the series of unvoiced stops:

→ = direction of greater markedness

p → p^h → p^ʔ

t → t^h → t^ʔ

k → k^h → k^ʔ

The same kind of relationships can be established between different phonemic units within a system. So, for example, nasalized vowels are opposed to the corresponding oral vowels as marked units of an opposition, while the nonnasalized oral vowels are unmarked. In any system with nasalized vowels, the frequency of occurrence of the nasalized vowels is always lower than the frequency of occurrence of the corresponding oral vowels. (See Ruhlen, "Nasal Vowels", in *Universals of Human Language*, vol. 2, pp. 203-41, Stanford, 1978.) The same is true of long vowels as opposed to short vowels. The long vowels, when there are phonemically long and short vowels in a system, that is to say, where the vocalic length is a phonemic feature, are always characterized by lower frequency of occurrence as opposed to the short vowels, long vowels being the marked member of the opposition versus the short vowels, which are characterized as unmarked.

In general, it may be asserted that the number of phonemes of the marked category will not exceed that of the number of phonemes of the unmarked category. This may be formulated as an implicational affirmation: the presence in a language system of a marked category implies the existence of the corresponding unmarked category.

As we have pointed out, in the system of voiceless stops having glottalized, aspirated, and plain members, the glottalized is the marked series as opposed to the aspirated, and the aspirated is marked as opposed to the plain. What I say now is in a contradictory relationship to the assertion that the marked implies the presence of the unmarked. We can have in a language system a glottalized series, but the glottalized series does not imply necessarily the presence of the unmarked series which, in this case, is the aspirated. That is to say, not every unmarked series is implied by the marked. Thus, the glottalized does not imply the presence of the aspirated per se.

3. THE RELATIONSHIP OF GAPS TO MARKEDNESS:

We shall discuss now the question of gaps or empty slots in the paradigmatic system. Gaps in a system have a certain reference to the

markedness of the phonemic categories in the system, and the gap is, so to say, in an intimate relationship with the theory of markedness in phonology. We know that the marked units in the system are characterized by a lower frequency of occurrence as opposed to the unmarked units, and in systems where we do not have full sets of phonemic units, the gaps are found in those places which are characterized by low frequency of occurrence in systems where there are full sets of phonemic units. In this sense, a gap in the system could be viewed as an empty slot in a paradigmatic system which should be filled in by a definite unit characterized by zero frequency of occurrence. That is to say, between a unit which forms a gap in the system and the marked unit which is characterized by low frequency of occurrence, there is only a quantitative difference. If we assume, for example, that the voiceless labial is marked as opposed to some other unit in a system, that is to say that /p/ is characterized by a lower frequency of occurrence as opposed to /t/ or /k/, then, if there is a gap, it will be /p/.

We may now discuss the relationship between units within a series. We shall use the glottalized series for illustration. It has been found that the glottalized series is, in all languages which have a series of glottalized consonants, always characterized by lower frequency of occurrence of the labial member of the series as opposed to the dental and velar. There are no languages with glottalized phonemes in a reverse relationship. In languages with a glottalized series and with a full set of the series, /p'/ is invariably characterized by a lower frequency of occurrence as opposed to /t'/ and /k'/, and, in a number of languages with glottalized consonants, it is precisely /p'/, the glottalized labial phoneme, which is lacking. Take the Caucasian languages. Here, we have languages with full sets of glottalized series /p'/ ~ /t'/ ~ /k'/, but /p'/ is invariably very low in frequency of occurrence as compared to /t'/ and /k'/. In several Caucasian languages, we have glottalized series lacking /p'/, the glottalized series having only /t'/ and /k'/. The empty slot in this case reflects the general linguistic regularity of high markedness of the glottalized

labial phoneme /p'/, its frequency in a number of systems dropping to zero. The same relationship can be established with regard to the series of pharyngealized stops. The series of pharyngealized stops is characterized by the same regularity as the glottalized series, the labial /p^ɗ/ being invariably lower in frequency of occurrence as compared with /t^ɗ/ and /k^ɗ/, and, in a number of languages, it is totally absent. As an example, we may cite the Semitic languages with /t^ɗ/ and /k^ɗ/ but with a lack of a pharyngealized (so-called "emphatic") labial. It is interesting to point out in this connection that in some Semitic languages we have glottalized emphatics instead of pharyngealized, in Ethiopic for example, and it may be assumed that in Proto-Semitic the series was glottalized and not pharyngealized and that pharyngealization is a later phenomenon, a result of the transformation of the feature of glottalization into pharyngealization, a movement, so to say, upward of the feature (cf. Martinet, *Economie des changements phonétiques*, 3rd ed., 1970, pp. 113-14). We may note that where a labial emphatic does occur, namely in Ethiopic, it is a late phenomenon, highly marked, and marginal. There is a gap at the labial point of articulation in the remaining Semitic languages. We can say that this unit is not characteristic of the central system, so to say, of Ethiopic. Anyway, if we assume that we have a /p'/ here, this /p'/ is highly marked and, as I said, of a lower frequency of occurrence, this differing from an empty slot only in quantitative terms.

4. THE RELATIONSHIP OF MARKEDNESS TO THE ENVIRONMENT:

As previously stated, markedness in the current concept is determined by the functional strength of the unit, this being manifested by the frequency of occurrence of this unit. An essential feature of markedness also is the character of the markedness relationship which is determined by the environment in which the given feature occurs. For example, let us take the feature of labialization. We can say that the labialized front vowels are highly marked as opposed to the nonlabial-

ized front vowels. /y/ is more marked than /i/, and /ø/ is more marked than /e/. That is to say, the labialized front vowels are characterized by a lower frequency of occurrence than the corresponding nonlabialized front vowels in any linguistic system. The feature of labialization appears here as a feature of markedness making the bundle highly marked as opposed to the bundle lacking this feature. Now, if we take this feature of labialization in the environment of the features making up the back vowels, we find that the same feature of labialization is unmarked in the sense that the labialized back vowels are unmarked as opposed to the nonlabialized back vowels. The nonlabialized back vowels are very rare in any linguistic system, and most systems lack any nonlabialized back vowels. Where they do occur, they are, of course, a minority, both in the system and textually, as opposed to the labialized back vowels. So the labialized back vowels are unmarked as opposed to the nonlabialized back vowels. That is to say, [+labialization] is a marked feature of the features making up the front vowels, while the same feature of [+labialization] is unmarked in conjunction with the features making up the back vowels. The great majority of languages have back vowels with the feature of [+labialization], and the feature of [-labialization] in back vowels is very rare. This same feature of [+labialization] may be marked or unmarked in accordance with other features with which it appears in a simultaneous environment, that is, the environment making up a bundle. We see here that the markedness of a feature is determined by the simultaneous environment in which the feature appears and is not a definite invariable characteristic of a definite feature. It is definitely dependent upon the environment.

In the phonological theory of Trubetzkoy, as well as that of Jakobson, the + of a feature always coincides with M (marked), and the - of a feature always coincides with U (unmarked). That is to say, we have a one-to-one relationship between M and + and between U and -. So, for example, glottalized is marked as opposed to nonglottalized, and [+voice] is always marked as opposed to [-voice] in Trubetzkoy phonology. Now, the introduction of the concept of the conditioned character of marked-

ness with respect to the feature violates this one-to-one relationship, and we can say that there is no one-to-one relationship between the symbols M and + on the one side and between U and - on the other. We have an interchange: + may be both M and U, and - may be both M and U. That is to say, a feature is marked (M) or unmarked (U) not invariably but dependent upon the other features in the simultaneous environment. We must always distinguish the features making up the environment to determine whether the feature in question is marked or unmarked.

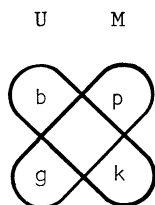
The markedness should be viewed as a function of the bundle as a whole and not of a definite feature in conjunction with other features. There are some very realistic reasons for assuming that this relationship affects the entire bundle and not a definite feature. This concept of markedness which I am going to propose comes close to the traditional concept of markedness of Trubetzkoy and Jakobson, which was viewed as a function of the bundle as a whole but of a bundle being in a privative opposition only to another bundle. In this respect, the current concept differs essentially from the approach of Trubetzkoy and Jakobson, but it comes close to the traditional approach in the sense that the relationship affects the whole bundle and not a definite feature, this being in agreement with the assumptions of transformational phonology and Greenberg's universal phonology (see Greenberg, *Language Universals with Special Reference to Feature Hierarchies*, 1966, The Hague). Essentially the transformational approach to the markedness relationship of a feature comes from Greenberg.

5. MARKING CONVENTIONS IN THE SYSTEM OF STOPS:

Now we will turn to the problem of markedness in phonemic systems. From that point of view, I would like to evaluate the consonant systems of languages of different structures and establish some universal regularities characteristic of consonant systems in general. We shall begin the discussion of this problem with systems of stops in different languages and, on the basis of inductive analysis, arrive at some general-

izations which have a fairly universal character, characterizing the internal relationships between the phonemic units existing at the deep structure of languages.

It can be established on the basis of an analysis of a great number of languages of different structures that in systems with an opposition in the feature of voice, the labial phoneme /b/ is functionally stronger than the velar /g/. That is to say, the combination of features making up the voiced phoneme /b/ yields a functionally strong unit, being manifested by a higher frequency of occurrence, while the combination of features making up the voiced phoneme /g/ yields a functionally weak unit, being manifested by a lower frequency of occurrence. In the voiceless series, the reverse correlation holds. That is to say, the voiceless velar /k/ is stronger than the voiceless labial /p/, which is again manifested in the frequency distribution of these units. Thus, the feature of [+voice] in combination with labiality and the feature of [-voice] in combination with velarity yield functionally strong units, while the feature of [-voice] in combination with labiality and the feature of [+voice] in combination with velarity yield functionally weak units:



In other words, /p/ and /g/ are marked units, and /b/ and /k/ are unmarked units.

The distribution of gaps or empty slots in a system is in full agreement with the frequency distribution of marked and unmarked units in the system. The gaps are found precisely in the points where the unit is marked, that is, characterized by low frequency of occurrence. According to these regularities, we have systems of the following types:

I		II		III		IV	
b	p	b	p	b	-	b	-
d	t	d	t	d	t	d	t
g	k	-	k	g	k	-	k

Notes:

Type I: /b/ and /k/ are strong, and /p/ and /g/ are weak.

Type II: Total absence of the voiced velar /g/.

Type III: Full set of voiced stops but with weak /g/; total absence of the voiceless labial /p/.

Type IV: Two gaps in the places of the most marked units in the system, /p/ and /g/.

Now, we see that the difference between system I and any of the other systems is only quantitative, the gaps or empty slots representing only the marked phonemes with zero frequency of occurrence. The total absence of a phoneme in type II, for instance, may be viewed as a particular case of the frequency of a marked unit with frequency being equal to zero, while in type I the frequency is beyond zero. Systems with full sets of series of stops with marked units characterized by low frequency of occurrence or with total absence of these marked units are highly characteristic of different languages of the world (for examples, one should consult Ruhlen, *A Guide to the Languages of the World* [1976, Stanford], where the phonemic systems of nearly 700 languages are given). We may adduce many instances of languages of type I with full sets of voiced and voiceless stops. Of type II, with one gap in the place of the voiced velar /g/, we have, for example, South Russian dialects, Czech, Byelorussian, Ukrainian, and many American Indian languages. Type IV, with two gaps in the places of the most marked units /g/ and /p/, is also a fairly widespread type in linguistic systems, found, for example, in Classical Arabic and Vietnamese.

It is very interesting to point out at this time that a distribution of stops such as found in type IV may give a clue to the source language for Linear A and Linear B. There are two sets of signs for /t/ and /d/, that is for the voiceless and voiced dental stops in Linear B, while there is only one set of signs for the labial and velar stops. This could be interpreted as a manifestation of the fact that the language for which the linear scripts was invented was characterized by a structure with two gaps in the system: in the velar point of articulation in the voiced, and in the labial point of articulation in the voiceless. Now, Greek differentiates between voiced and voiceless labials and velars, that is to say, it has no gaps in the system of stops, although the distribution of the marked units versus the unmarked units will be the same as the physical distribution, but there are no gaps. The sets of signs for the voiced dental, which was distinguished in the original language for which the linear scripts was invented, was used to render this distinction in Greek, while, for the /p/ ~ /b/ opposition and the /k/ ~ /g/ opposition, there were only single sets of signs. We can guess, on the basis of typological evidence, that the sets of signs distinguishing between /b/ and /p/ was originally the set of signs for the voiced labial /b/ alone, and the set of signs used to render both voiced and voiceless velars in Greek was originally used for only the voiceless velar /k/ in a language having two gaps in the system, namely, in the places of the voiceless labial /p/ and the voiced velar /g/. This could be a clue to the determination of the language for which the script had been invented, the script from which both Linear A and Linear B was derived.

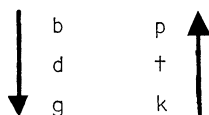
It is also interesting to evaluate the functional strength of the dental series in stop systems differentiating series on the feature of voice. It turns out invariably that the dental series is the most unmarked series as opposed to the labial and velar series. The dental series as a whole is invariably stronger than the labial and the velar series. Thus, the frequency of occurrence of the dental series is higher than that of the labial and velar, but we have in some cases

systems of the sort:

V		
b	p	p ^h
-	t	t ^h
-	k	k ^h

The existence of systems of type V, along with systems of type II, points to a specific status of the voiced dental /d/ in the system. As a rule, it turns out that the voiced dental stop is weaker functionally than the labial, but, in view of the existence of systems of type II, it is stronger than the voiced velar /g/. Anything in the series of voiced stops is thus stronger than the velar. In terms of combination with the feature of voice, the features of point of articulation form a definite hierarchical sequence: voice is best combined with the feature of labiality, and the absence of voice is best combined with the feature of velarity, the feature of dental articulation holding an intermediate position. Systems of type V are fairly widespread in American Indian languages. The relationship of increasing markedness can be represented as a scheme with arrows going from the least marked to the most marked units in the system:

↑ ↓ = direction of greater markedness



This scheme, however, is not entirely accurate. It reflects well the relationship in the series of voiced stops but not so well the relationship in the series of voiceless stops. This scheme assumes that /b/ is the least marked and functionally the strongest, that /d/ is in the

second place, and that /g/ is the weakest in the voiced series, and that /k/ is the strongest, that /t/ is in the second place, and that /p/ is the weakest in the voiceless series. It turns out, however, that the voiceless dental stop /t/ is the strongest in the voiceless series, and we can say that, in the overwhelming majority of languages, with very few exceptions, the voiceless dental stop is always present. The voiceless dental stop forms a unit entering the minimal phonemic inventory of a language.

Now, these relationships, which are established synchronically, have very far-reaching diachronic implications. Change occurs in conformity with the synchronic relationships, which can be established on the basis of the typological comparison of languages. Change takes place in accordance with these regularities, and we can point out many languages which lose the marked units but preserve the unmarked units. In general, the first to be lost in a system is the marked unit and only after the loss of the marked unit will the unmarked unit be lost and not in the reverse sequence. The whole system is bound together by very deep internal relationships showing a certain hierarchy of phonological values, and change occurs in accordance with these hierarchies and not in a random fashion.

Now we shall elaborate this theory further and discuss systems which have different series of voiceless stops and not just one series. Take a system with different series in the subclass of voiceless stops, say a system with a voiced ~ voiceless contrast but in the subsystem of voiceless having not one series but several, such as plain, aspirated, and glottalized or, for that matter, pharyngealized:

VI

b	p	p ^h	p'	(p ^ʔ)
d	t	t ^h	t'	(t ^ʔ)
g	k	k ^h	k'	(k ^ʔ)

We have found, as had been established previously by Greenberg, that the glottalized series is the weakest in the subsystem of stops: it is the most marked series, characterized by the lowest frequency of occurrence, while the aspirated series is unmarked as opposed to the glottalized, and the plain is unmarked as opposed to the aspirated. But now we know more. We know that in the voiceless series in general the labial is weak and the velar is strong, while in the voiced series the reverse correlation holds, the labial being strong and the velar weak. Now, since the glottalized is as a whole the weakest in the voiceless subgroup, we can assume that the glottalized labial will be the weakest as opposed to the glottalized velar. We know that in such systems the labial /pʰ/ is often absent, and, if it is present, that is to say, if we have full sets of glottalized stops, the labial is characterized by the lowest frequency of occurrence. In like manner, in the aspirated series the labial /pʰ/ is weaker than the velar /kʰ/, so that if we have a gap in this series, the gap will be the labial member and not the velar one. In the plain series, the same relationship also holds: the labial is weak, and the velar is strong. If we check languages with glottalized stops, we will see that the gap is at the place of the glottalized labial, and, if there are two gaps in the subsystem of voiceless stops, the second gap will be at the place of the labial aspirate, and we have many systems lacking /pʰ/ and /pʰ/. The same regularities hold for the pharyngealized series, so that the pharyngealized labial is weaker than the aspirated, and the aspirated is weaker than the plain. Classical Arabic has a system with gaps in precisely the points predicted:

Classical Arabic

b	-	-
d	t	ṭ
-	k	ḳ

Less plausible are systems of the type:

VII

b	-	p'
d	t ^h	t'
g	k ^h	k'

Amharic has such a system, but it is apparent that /p'/ occurs in two or three words of foreign origin here and that it is a marginal phoneme not characteristic of the system. A system of this type is highly improbable, and even more improbable are systems of the following type:

VIII

b	-	p ^h	p'
d	t	t ^h	t'
g	k	k ^h	k'

Among the whole host of languages with glottalized stops, there are no systems with a gap in the place of the plain and with filled in slots for the aspirated and glottalized labials.

These regularities also hold for those systems not having an opposition on the feature of voice, that is to say, systems which are characterized by a series of stops all being articulated phonetically as voiceless. Systems of this sort are widespread, being found, for example, in American Indian languages such as the Athapaskan languages, which are characterized by three series of voiceless stops with an opposition of plain, aspirated, and glottalized. There is no feature of voice in systems of this sort, the series being opposed to each other by the presence or absence of the feature of aspiration and by the presence or absence of the feature of glottalization. We can represent such systems as follows:

IX

p	p ^h	p'
t	t ^h	t'
k	k ^h	k'

In such systems, the same regularities hold from the viewpoint of marking conventions, that is to say, the labial is marked, and the velar is unmarked, the labial being characterized by lower frequency of occurrence and being functionally weaker than the velar. From the point of view of the distribution of gaps, the same regularities also hold: if there is one gap in the system, the gap will be the glottalized labial first, and we thus have systems of the sort:

X

p	p ^h	-
t	t ^h	t'
k	k ^h	k'

If there are two gaps in the system, and such languages are also attested in the Athapaskan languages such as Navajo, for instance, the gaps occur in full accordance with the regularities established for systems having a voiced ~ voiceless opposition:

XI

p	-	-
t	t ^h	t'
k	k ^h	k'

These regularities are also applicable to systems which distinguish more than three series of stops. We have already discussed systems dis-

tinguishing between labial, dental, and velar series. Now, we can have systems with more than three series of stops, say systems with a postvelar series of stops as well:

XII

b	p ^h	p'
d	t ^h	t'
g	k ^h	k'
g	q ^h	q'

The regularities established for systems with three series are extended to systems with a postvelar series: in the series of voiced stops, the unit articulated the farthest back is the most marked, /g/ being thus more marked than /g/. The markedness relation increases along with the displacement of the point of articulation from the front to the back. Hence, the regularities are manifested in the same way in systems having more than three series as in systems having only three series: in the postvelar series, in the series of voiced stops, the unit articulated farther back is the most marked, while in the voiceless series of stops, the postvelar tends to be less marked than the units articulated in front of the postvelar point of articulation. In systems having a postvelar series, the glottalized postvelar is as a rule stronger than the glottalized velar and much stronger than the aspirated velar. So, if we expect gaps in a system of this sort, the first gap will be expected in the position of the most marked unit, in this case, the voiced postvelar /g/, and we do have systems with just such a gap:

XIII

b	p ^h	p'
d	t ^h	t'
g	k ^h	k'
-	q ^h	q'

There are no languages having gaps in the place of the velar and having filled in slots in the place of the postvelar. The above system is found in most of the Caucasian languages. Now, we have said that the glottalized postvelar is functionally stronger than the aspirated postvelar, and, for diachronic conclusions, it is interesting to note that in certain Caucasian languages /q^h/ tends to be lost, while /q'/ is very stable. Such a system is found, for example, in modern Georgian. After the loss of /q^h/ in Georgian, the glottalized /q'/ shifts to another class, forming a three-member class with the velar fricatives /ɣ/ and /x/. These transformations can be accounted for if we consider the hierarchy of phonological values in a system established synchronically. Such systems with gaps are very consistent and regular, and a system with gaps does not differ from a system with full sets. Hence, in reconstructing an earlier proto-system, we must not try to fill in a gap when there is no comparative evidence. For instance, there have been attempts in Caucasian linguistics to posit a voiced postvelar /g/ in the reconstructed proto-language. Since, however, this sound is not present in the historical systems, there is no compelling evidence for the proto-system to have it. The essential point here, again, is that we must not try, if there is no comparative evidence, to fill in a gap. Reconstructed systems should be characterized by the same regularities which are found in any historical system.

6. THE RELATIONSHIP OF MARKEDNESS TO THE BUNDLE:

I want to discuss now some considerations in connection with the problem of the interpretation of the relationship of markedness. What is -- so to say -- the marking convention, and what phonological values do the marking conventions present? What is marked in a system, and how should it be conceived in the current theory of markedness? We pointed out earlier that markedness in the classical theory of Trubetzkoy and Jakobson was viewed as a relationship between units being in privative opposition. The marked unit is a unit having a definite fea-

ture, and the unmarked unit is a unit lacking this feature according to the classical theory. In the current concept of the term, the relationship of markedness should be interpreted as commonness, usualness, or naturalness of a definite linguistic unit found in all language systems in contrast to a phonemically less usual, less natural, and hence less widespread unit, characterized in the system by certain restrictions and constraints. It is the degree of usualness and naturalness of the units in the system that determines the hierarchical relationship of markedness between them. Phonemically more usual, more natural, and more common units of a system are characterized as unmarked in contradistinction to the marked, that is, the less usual, less natural, and less common elements in the system. This functional strength, usualness, commonness of a unit is manifested in its higher frequency of occurrence as compared to a less natural and less common unit, which is characterized by a lower frequency of occurrence.

The degree of naturalness of a unit leads to the establishment of the primary phonemic inventory of language in general, these being the the problems which were investigated by Jakobson in his *Child Language, Aphasia and Phonological Universals* (translated by Allan R. Keiler, 1968, The Hague). However, it is not the relationship between the degree of markedness of phonemic units and their relative textual frequency that would seem logically relevant in this respect but between their markedness and frequency of occurrence in the system and the degree of their occurrence in the vocabulary, this constituting the basis for the determination of their functional load. Now, if we define the markedness relationship as the commonness and naturalness of a unit, the logically sound methodology would be the establishment of the frequency of occurrence of the unit in the system and in the vocabulary, since we can measure the functional load of a definite unit by the frequency of occurrence of this unit in the lexicon. That is to say, to determine the naturalness, the commonness of a unit, we have to determine the frequency of this unit in the vocabulary inasmuch as a one-to-one relationship can be established empirically between the frequency

of occurrence of the unit in the system and in a text. The frequency correlation of more ~ less, with either opposed pairs in the text, coincides with their correlation in the system. Thus, we can on the basis of the frequency of occurrence of units in texts determine the ratio of the frequency of occurrence in the vocabulary and so establish the markedness relationship of these units.

Viewed in this light, the category of markedness on the phonological level appears to differ essentially from the relationship of markedness in grammar and in semantics. On the phonological level, the relationship of markedness appears to be a function of the psycho-physical factors controlling the combinational capacities of distinctive features, these features being absent at the grammatical level, this making the difference between the relationship of markedness at the phonological level and at the morphological level. This commonness and naturalness of certain units is a function of the physical properties of distinctive features to combine with each other in a bundle making up the phonemic units. Some features tend to combine easier in a simultaneous bundle, while other features combine with more difficulty, and this is the reason that the bundle is marked, characterized by lower frequency of occurrence, less natural, and so on. The problem now is to determine which features combine in simultaneous bundles with more difficulty, and which tend not to combine at all in a bundle. Now, the analysis of markedness relationship at this level is reduced to determining the feature properties of the bundles and the ability of these features to combine with each other at the axis of simultaneity. The marked and thus less frequent bundles have features which combine with greater difficulty with each other, and the unmarked units have features which combine with each other easier, this giving functionally strong phonemes which are characterized by naturalness and higher frequency of occurrence in the system in general. That is why the marked and unmarked units established empirically as the result of the analysis of definite linguistic systems tend to be generally weak or generally strong in language in general, the underlying reasons being phonetic and characterized by a high degree of generality or universality.

Taking into account the features of syllabicity and nonsyllabicity for determining the character of phonemic units, we may argue that the feature of labialization in combination with the features [+syllabic, -nonsyllabic, -low, +front] is a marked feature. Labialization in this bundle of features making up the front labialized vowels is marked, and by defining one of the features, say labialization, as marked in this environment automatically determines the markedness value of all of the other features as marked, that is to say, if we determine one feature from the environment as marked or unmarked, this determines automatically the markedness value of each feature in the simultaneous bundle: if [+labialized] is marked, all of the other features from the simultaneous bundle are marked. By the same token, if we determine one feature to be unmarked, then we must determine all of the other features from the simultaneous bundle to be unmarked. What we thus get is the same value of markedness for all of the features in a bundle.

Marked in the current concept is not having a feature (Merkmaltragend) but being more common, more natural, more widespread, while unmarked is not lacking a feature (Merkmallos) but being less common, less natural, less widespread. Higher commonness, higher naturalness as opposed to lower commonness, lower naturalness is manifested in the higher or lower frequency of occurrence of a unit. The relationship of markedness thus conceived should be viewed as the capacity of definite distinctive features to combine into simultaneous bundles and to interrelate along the axis of simultaneity forming various phonemic units. It is the different capacity of features to relate to each other in simultaneous combinations or vertical sequences that creates in the system combinations different in character and possessing a varying degree of markedness. Both entire phonemic bundles as well as subphonemic combinations may constitute such combinations of distinctive features in respect to which the relationship of markedness is being established. We can set up a gradation scale of markedness of vertical combinations of features with opposed extreme values involving at the one extreme obligatory combinations of distinctive features on

the axis of simultaneity, that is, the maximally unmarked combinations of features, and at the other extreme the combinations which form the maximally marked combinations of features. The latter represent the combinations which never occur, being the features which are mutually incompatible in a simultaneous bundle. Such combinations as the features of glottalization with voice or of nasal with fricative [-discontinuous], for example, should be viewed as maximally marked. Between the two extremes of maximally marked and maximally unmarked are arranged all kinds of possible combinations of distinctive features with greater or lesser degrees of markedness.

We could envisage the possibility of a bundle which is maximally unmarked as [+syllabic, -nonsyllabic, \pm low]. Now, there are conflicting theories in current linguistics arguing that a language with only one vowel is possible on the one side or is impossible on the other. According to Trubetzkoy, a vocalic system must have two vowels differing in height, and this type of system is found in West Caucasian languages such as Abaza and Kabardian, among others. That is to say, in these languages we have bundles of [+syllabic, -nonsyllabic, +low] and [+syllabic, -nonsyllabic, -low]: there are two vowels in the system differentiated by the feature of height, [+low] versus [-low]. Recently, the theory has been advanced that these same languages have only one vowel -- this was advocated by W. S. Allen for Abaza and by A. H. Kuipers for Kabardian. They argue that, in the affected languages, we have only one vocalic element manifesting itself phonetically in the form of predictable vocalic units of different timbre and that this single vowel is not differentiated on the feature of height. This assumption, however, has met with objections on the part of many linguists. If we assume only one vowel in the linguistic system, we can come to the conclusion that there is absolutely no vowel in the system, and this is what Kuipers does. This vocalic element can be viewed as a vocalic support of the consonants, there being no vowels. Now, we can go further and argue that, if we have no vowels in the system, there are no consonants either, that is to say, the units which are termed

consonants are syllabic in certain positions and nonsyllabic in certain other positions. There are only elements which can be characterized as resonants, units which are both [+syllabic] and [+nonsyllabic]. I cannot say that this problem is solved at this time; however, I personally am particularly inclined to assume that a language without a vocalic distinction, that is to say, without at least two vocalic elements, seems to be less plausible.

This problem has very important typological implications, because, if we can show that there are no languages with only one vowel, then the assumption of one vowel for Proto-Indo-European is typologically implausible. If we assume that the West Caucasian languages do in fact have only one vowel, however, then the theory that there was only one vowel in Proto-Indo-European, which had its start with de Saussure, which has since been elaborated in great detail, and which is closely bound with the problems of the Laryngeal Theory, would at least be typologically plausible. It is not too much to say that the one vowel picture of Proto-Indo-European stands or falls on the basis of the typological evidence from the West Caucasian languages.

I would like to mention here that Proto-Indo-European should not be viewed as a frozen system which was one and the same for a long period of time. On the basis of the comparison of the historical languages, we can envisage several stages in Proto-Indo-European. My feeling is that the conflicting theories about Proto-Indo-European can in certain cases be reconciled by the assumption that these theories describe Proto-Indo-European at different chronological stages. For example, there is a theory assuming one vowel and three or even more laryngeals and another theory assuming three vowels and one laryngeal. These theories are not necessarily incompatible but are complimentary in a chronological sense. For a discussion of my own views on the Laryngeal Theory, see my paper entitled "Hittite and the Laryngeal Theory", in *Pratidānam: Festschrift F. B. J. Kuipers*, 1968, pp. 89-97, The Hague.

Now, there are features which are not incompatible but which are less likely to combine with each other than other features. Thus, for

example, the features [+syllabic, -nonsyllabic, +labialized, -low, -front] combine more naturally in a simultaneous bundle, forming unmarked labialized back vowels, than do the features [+syllabic, -nonsyllabic, +labialized, -low, +front], marked labialized front vowels. On the other hand, the features [+syllabic, -nonsyllabic, -labialized, -low, -front] tend to combine less naturally with each other to form nonlabialized back vowels than do the features [+syllabic, -nonsyllabic, -labialized, -low, +front], which characterize nonlabialized front vowels. This general tendency of nonlow front vowels to lack labialization and conversely of nonlow back vowels to have labialization can be accounted for by the perception of the vowels. The most contrastive and therefore optimal combinations for vowel perception are formed when the tonal features of gravity and flatness are combined with the same values, that is to say, [+grave, +flat] or [-grave, -flat]. If either grave is - and flat is + or grave is + and flat is -, that is, [-grave, +flat] or [+grave, -flat], they are noncontrastive. In perfect analogy to this, such features as [-syllabic, +nonsyllabic, +voiced, -continuant, +velar], the voiced velar stop /g/, combine with more difficulty in a simultaneous bundle than do the features [-syllabic, +nonsyllabic, +voiced, -continuant, +labial], the voiced labial stop /b/. The combination of features [-syllabic, +nonsyllabic, +voiced, -continuant, +dental], the voiced dental stop /d/, occupies an intermediate position and is a better combination than /g/ and a worse combination than /b/. On the other hand, the features [-syllabic, +nonsyllabic, -voiced, -continuant, +velar], the unmarked voiceless velar stop /k/, combine with each other better than the features [-syllabic, +nonsyllabic, -continuant, -voiced, +labial], the marked voiceless labial stop /p/. The characteristics of the occlusives in question may be accounted for by the articulatory and acoustic peculiarities of these sounds. The most compact consonants, the velars and postvelars, articulated at points close to the glottis, combine poorer with the attendant vibrations of the vocal chords than do the highly diffused consonants such as the voiced labial /b/, articulated at the point most distant from the glot-

tis. An intermediate position is occupied by the voiced dental stop /d/, articulated farther from the glottis than the voiced velar stop /g/ but closer as compared to the voiced labial stop /b/. So the more we are removed from the point of the glottis, when the glottis is characterized by the vibration of the vocal folds, that is, by the feature of voice, the stronger the combination we get. On the other hand, voicelessness is an optimal condition in articulating the most compact consonants, the velars, and the least favorable property in articulating the most diffused sounds, the labials. When we have openness of the glottis, and the vocal chords are in the neutral position, not vibrating, the closer the point of articulation to the glottis the stronger the combination of features which yield the occlusive sounds. So, velar voiceless is stronger than labial voiceless, while the voiceless dental differs by being universally the strongest of all of the consonants in general. Combinations of these features in a simultaneous articulation becomes further complicated by the addition of the features of aspiration or, to an even greater extent, glottalization, forming respectively the marked phonemes /p^h/ and /p'/ and the unmarked phonemes /k^h/ and /k'/.

As we have seen, definite distinctive features combine with each other in simultaneous bundles in preference to other features whose combinations on the axis of simultaneity form more complex bundles in terms of articulation and perception, and, being less optimal, such combinations are of limited occurrence in the system. Such combinations yield the marked units in the system as opposed to the combinations which are preferred in languages and which form the unmarked units, characterized by a higher frequency of occurrence and by a wider range of distribution and thus functionally stronger than the marked. Markedness thus conceived is a function of universally valid phonetic properties. That is why the units determined to be either marked or unmarked, by means of empirical analysis based on frequency phenomena in languages of different structures, are universally valid: underlying are the universal properties of articulatory, acoustic, and perceptive features

which are the same in all languages.

These hierarchical relationships can also be established, at least provisionally, in other subclasses in a paradigmatic system such as, for example, the fricatives. For details about these relationships, see my paper entitled "On the Correlation of Stops and Fricatives in a Phonological System", in *Universals of Human Language*, vol. 2, 1978, pp. 9-46, Stanford.

7. RECONSTRUCTION AND TYPOLOGY:

Related or cognate languages are those languages which show sets of very strict and very regular phonetic correspondences and which are assumed to be a later form of a language system existing previously at the axis of time. There are very often questions about whether this or that language is related to some other language or languages, that is, whether or not they have a common ancestor. Theoretically, two or more languages can be said to have a common ancestor only if we can establish regular phonemic correspondences between them. Until such phonemic correspondences are established, we cannot say anything positive about their common origin and of their being related. There are arguments, as we know, about the provenience of the languages of the Ancient Near East such as Urartian, Hurrian, Hattic, Sumerian, and so on. Now, since these languages do not manifest phonemic correspondences with any language known so far, we cannot determine the genetic relationship of these languages to any other language. The same holds true in the case of Basque, which is, of course, sometimes linked to Caucasian, since it has ergative and some structural similarities with Caucasian. However, even the Caucasian languages themselves cannot be considered as coming from a common source, because there are three separate groups of Caucasian languages between which it is very difficult at this stage of our knowledge to establish correspondences. Therefore, we cannot as yet assume that these languages are descendants of a common Caucasian linguistic system.

The genetic comparison of historically-attested languages has meaning only if the end result of such a comparison is the reconstruction of the system which is to be posited as the proto-system, the system from which the historical systems are descended. As de Saussure put it, comparison without reconstruction is sterile. The reconstruction of this system gives a great deal of information about the history of the historically-attested languages, since, in reconstructing the common language, we are also reconstructing the prehistory of the historically-attested languages.

There are special methods used in reconstructing the common system, this being a long and very complicated procedure. This methodology can be verified on the example of historical languages such as the Romance languages, which are derived from a special kind of Latin. We must always attempt to achieve reality in theoretically reconstructed forms posited for the proto-language. We cannot claim that we are able to recover all of the structures characteristic of the proto-language, but our aim must be to give a full and realistic reconstruction. If we follow these premises, we must try to reconstruct our proto-system in a form which should conform to language structure in general, that is to say, we must not posit in the proto-system structures which are not characteristic of language. We can use typological data to help us establish the patterns which are characteristic of language in general. In so doing, we find that some structures are highly characteristic and other structures are less characteristic. Say, if there are no languages having an element X which do not have an element Y at the same time, we must assume, in the same way, that in a proto-language, if there is an X postulated, there must also be a Y : if there is no Y that can be assumed on the basis of the data from the historical languages, then the existence of X in the proto-system becomes suspect.

Theoretically there can be several possibilities of positing a system from which all of the historical systems can be derived, that is to say, on the basis of the comparison of the historical systems, which have regular sets of correspondences, we can posit systems of different

forms which claim the right to be the proto-system. In other words, if we observe all of the rules of Comparative and Internal Reconstruction, we can arrive at different systems, that is, at different results. We must, therefore, have some criteria to use in evaluating these systems. One of the main criteria for evaluating the reality of such a system is to determine if the system is in conformity with typological evidence. If a particular reconstruction contains elements which are not characteristic of language, then the system which is not at variance with the typological evidence must be preferred to the one which contains the contradictions.

8. THE RECONSTRUCTION OF THE PROTO-INDO-EUROPEAN STOP SYSTEM:

A phonological system of Indo-European, reconstructed in conformity with typological evidence, would be more natural and simpler for the rules of derivation than is the case in the classical system. In the traditional reconstruction, Proto-Indo-European does not conform with the typological evidence but is close to verifiability from the diachronic point of view. That is to say, the changes which are assumed in classical comparative grammar can be verified, can be shown to be phonetically possible, although there are some limitations. The long endurance of the classical system is no doubt due precisely to its diachronic verifiability, nobody until Pedersen having checked the typological plausibility of the system. I will now evaluate the Proto-Indo-European system from the typological point of view to try to show that the classical system of comparative grammar is not in conformity with the typological evidence, and, as a consequence of this, I will propose a reinterpretation of that system that not only brings it into conformity with the typological evidence but that also proves even more natural from a diachronic point of view.

We find the following sets of correspondences in the subsystem of stops between the various Indo-European languages (this is a somewhat simplified table, but it will serve to illustrate our arguments):

Old Indic	Greek	Latin	Slavic	Germanic	Armenian
d	δ	d	d	t	t
g	γ	g	g	k	k
bh	φ	f/b	b	b/β	b
dh	θ	f/d	d	d/ð	d
gh	χ	h/g	g	g/γ	g
p	π	p	p	f	h/p' /ø
t	τ	t	t	θ	t'
k	κ	k	k	χ	k'

Notes:

1. For examples and discussion, the reader is referred to the standard handbooks.
2. We will not address the problem of additional guttural series here.
3. In Armenian, we may posit glottalized stops for the first series and, for the second series, voiced aspirates with plain voiced stops in allophonic distribution:

b/b^h d/d^h g/g^h

On the basis of these sets of correspondences, which were established in the early stages of Indo-European comparative grammar, the following system of Indo-European consonantism has been reconstructed, according to the latest works on the topic based on the traditional theory of Indo-European consonantism:

I	II	III
(b)	bh	p
d	dh	t
g	gh	k

According to the current view, assumed by the majority of scholars, there were three series: the first was voiced, the second voiced aspirated, and the third voiceless. That is to say, the system posited for Proto-Indo-European by the comparativists is close to the systems of such dialects as Old Indic, Greek, Latin, and Slavic. If we have any changes in Old Indic as compared to the proto-system, these changes are explained as transformations of the proto-system, such as the appearance of a fourth series in Old Indic, the series of voiceless aspirates, which is partially attributed to the influence of laryngeals. The four series system of Old Indic is thus the result of later changes and not characteristic of Indo-European, which had a three-series system. There have been tendencies to posit a fourth series of voiceless aspirates for Proto-Indo-European, but this is not justified by the comparative evidence, and we have only three series of stops in Indo-European. All the systems of the historical languages are the result of transformations of the proto-system, with the most drastic changes being evidenced by such systems as Germanic and Armenian. From the very beginning of Indo-European comparative linguistics, it was assumed that in Germanic a consonant shift, a "Lautverschiebung", took place from the proto-system, as a result of which the voiced series shifted to a voiceless series, the voiced aspirates to pure voiced, and the voiceless to the respective aspirated series and later to voiceless fricatives as a natural process of the lenition of the voiceless aspirated stops to fricatives. Similar changes are assumed for Armenian (see, for instance, Meillet, "The Germanic and Armenian Consonant Shifts", in *The Indo-European Dialects*, translated by S. N. Rosenberg, pp. 116-24, 1967, University). This is why we have, for example, Lat. *pecū* versus Goth. *faihu*; OInd. *pítár-*, Gk. *πατήρ*, Lat. *pater* versus Goth. *fadar*; OInd. *bhrátar-*, Gk. *ῥατήρ*, Lat. *frāter* versus Goth. *brōþar*. Thus, in the traditional view, we have to assume a sound shift for Germanic and Armenian. This is the so-called "Lautverschiebung" in Germanic, the first or Common Germanic consonant shift, Grimm's Law.

Let us now take a close look at this traditional reconstruction of

Indo-European, which has not changed greatly since the days of Schleicher (cf. Schleicher, *Compendium der vergleichenden Grammatik der indogermanischen Sprachen*, p. 10, 4th ed. reprinted 1974; Lehmann, *Proto-Indo-European Phonology*, p. 99, 1952):

A. Schleicher:

	unaspirated		asp.	spirants		nasals	r
	vls.	vd.	vd.	vls.	vd.	vd.	vd.
gutt.	k	g	gh				
pal.				j			
lingu.							r
dent.	t	d	dh	s		n	
lab.	p	b	bh	v		m	

B. Lehmann:

Obstruents:	p	t	k	k ^w
	b	d	g	g ^w
	b ^h	d ^h	g ^h	g ^{w h}
		s		
Resonants:	m	n		
	w	r	l	y

The traditional system assumed for Proto-Indo-European is highly uncharacteristic of language in general. There is no language that shares the features which are assumed to have been present in the Proto-Indo-European linguistic system. The main feature in this respect is the absence in the voiced series of the labial unit /b/. It has long been shown that there are no unambiguous instances for the reconstruction in this series of stops for the labial phoneme /b/, and we can thus speak of the total absence, of a gap, in the place of /b/ in the voiced series. There are some forms which have been interpreted as

having Proto-Indo-European /b/ in noninitial position such as Goth. *diups*, Lith. *dubùs*, but these correspondences are restricted to a very small group of dialects and are highly questionable. We cannot posit a full set of units for the traditional voiced series.

If we view the reconstructed system as a real system which existed at a particular point in time, it must not contain anything running counter to the typological evidence. There are no languages with an opposition on the feature of voice in the subsystem of stops without /b/ -- if there is a gap in the voiced series, it will be at the velar point of articulation and not the labial. On the other hand, it is very characteristic of systems to have a gap at the *voiceless* labial point of articulation. Thus, the gap at the labial point of articulation in Proto-Indo-European gives evidence of the original nonvoiced character of the series in question: if we take the series to have been nonvoiced, we can account for the gap in a natural phonetic way from the typological point of view, while, if we assume that it was voiced, such a gap cannot be explained.

If we reconstruct the Proto-Indo-European system strictly on the basis of the comparative evidence, we have two possibilities here: (1) voiced, which would then have become voiceless in systems such as Germanic and Armenian and which remained voiced elsewhere; and (2) voiceless, which became voiced in systems such as Old Indic, Greek, Latin, and Slavic. Nothing tells us in advance which must be posited: strictly on the comparative evidence, we can posit either voiced or voiceless. In the traditional reconstruction, the voiced possibility was chosen, but nobody checked the typological plausibility of such a system with a gap in the voiced series at the labial point of articulation -- the first attempt was made in 1951 by Holger Pedersen. Let us now look at the second possibility: this series was voiceless in Proto-Indo-European and became voiced in all of the historically-attested languages except Germanic and Armenian. This does in fact account in a natural way for the absence of the labial member since we know that systems lacking the voiceless labial are very common. However, positing a

voiceless series here, which accounts for the gap in the system, causes problems for the system as a whole since the various series are inter-related, and, if we totally change the distinctive features of one series, it necessitates the reinterpretation of the other series.

Another shortcoming of the traditional system from the typological point of view, which was pointed out by Roman Jakobson and André Martinet, is the absence of voiceless aspirates in the presence of the voiced aspirates. A phonemic system having voiced aspirates and not having at the same time a series of voiceless aspirates is highly unnatural and typologically improbable: if a system has voiced aspirates as phonetic units, it must also have voiceless aspirates as phonetic units in the system. To bring such a system into conformity with the typological evidence, we must find a solution taking into account the typological as well as the comparative evidence. We may propose the following solution to this problem: series III may be interpreted as involving an original series of aspirated sounds. Now, we assumed earlier that series I was also voiceless. A system of this sort is typologically implausible. What is implausible is the pure voiceless character of the first series. We can see from the comparative evidence that series I is more marked than series III since there is a gap at the labial point of articulation in series I. Since the gap must be in the most marked series, we have to assume that series I was not plain voiceless but that it contained a feature which made it more marked than the aspirated series. We know from the typological evidence that a series more marked than the aspirated is the glottalized. Therefore, we may reinterpret series I as glottalized. This interpretation is verifiable from the comparative evidence since in Armenian we have glottalized stops as reflexes of this series. Now, all of the synchronic typological difficulties of the classical system are eliminated.

The feature of aspiration accompanying the phonemes of series II and III is relevant from a phonetic point of view but redundant from a phonological point of view. If it is phonologically redundant, we may assume that there were some environments where the phonemes in ques-

tion were realized without this phonetic feature: we may assume that series II was realized in the form of two allophones, plain voiced and voiced aspirated, and that series III was also realized in the form of two allophones, plain voiceless and voiceless aspirated. This is, as a matter of fact, actually attested in Armenian dialects, with glottalized, with plain voiced and voiced aspirates as allophones, and with plain voiceless and voiceless aspirates as allophones. The new system is now complete, and we may represent it in the following form:

I	II	III
(p')	b/b ^h	p/p ^h
t'	d/d ^h	t/t ^h
k'	g/g ^h	k/k ^h

9. GRASSMANN'S LAW, BARTHOLOMAE'S LAW, AND THE ROOT STRUCTURE CONSTRAINTS:

We can determine some of the patterns of distribution of the allophones of the phonemes of series II and III. In phonetically neutral positions, the aspirated allophone was found, while in structures where two phonemes of the series cooccurred, one was realized as an aspirate and the other as a nonaspirate. Phonemically, we may posit a form such as */b^heu^hd^h-/ , but phonetically we should expect either */b^heu^hd-/ or */beu^hd^h-. We may assume such paradigmatic alternation at the allophonic level of aspirates ~ nonaspirates as realizations of one and the same phoneme. The rule was that there was only one aspirated allophone in a sequence, and this applied both to contact sequences as well as to distant sequences. From this rule, we can deduce both OInd. *bodh-* as well as Gk. *πevθ-*, that is to say, we do not have to assume the deaspiration of */b^heu^hd^h-/ as occurring independently in Old Indic and Greek. Rather, we can assume an allophonic alternation of the phonemes of series II at the Indo-European level, yielding directly the results attes-

ted in Old Indic and Greek. This explains the uniformity of the so-called "Grassmann's Law" in Greek and in Old Indic. Grassmann's Law is thus reinterpreted as an allophonic alternation affecting the distribution of the phonemes of series II (and series III).

Bartholomae's Law has a very unsatisfactory explanation in the classical theory. We know that if $*/b^h eud^h-/$ were followed by $*/-to-/$, it yielded *buddha-* in Old Indic. What happened here was the transfer of aspiration accompanied by progressive voice assimilation. There are different opinions as to the possibility of such an evolution in view of the seeming tendency towards regressive assimilation in Old Indic: if we have *d* followed by *t*, the result is *tt* and not *dd*: *ad + ti > atti*; *ved + tha > vettha*. In classical theory, this contradicts the assumption reflected by Bartholomae's Law of progressive assimilation. Now, it can be shown that the same rules of assimilation applied to contact sequences as well as to distant sequences. In the new interpretation, we assume that $*/bud^h/ + */to-/$ would yield phonemically $*/bud-t^h o-/$ with the aspirated allophone of series III because it was in the following position and the unaspirated allophone of series II because it was in the preceding position. Next, we assume a simple rule of voice assimilation: $*/bud^h-/ + */to-/ > */bud-t^h o-/ > buddha-$. There is only one rule of assimilation needed for the explanation of this change, and this assumption is not in contradiction with the direction of the assimilatory forces in Old Indic, since, in the new theory, forms such as *ad + ti* were from $*/at'/ + ti$. Hence, the contradiction in the classical theory is easily overcome in the new theory by assuming the first series to be glottalized and by assuming the allophonic alternation of the phonemes of series II and III.

There are well-known restrictions on the structure of the Proto-Indo-European root, and these restrictions are totally unnatural and unaccounted for in the traditional reconstruction. In traditional terms, the restrictions may be stated as follows:

1. A root cannot begin and end with a plain voiced stop.

2. A root cannot begin with a plain voiceless stop and end with a voiced aspirate or vice versa.

The first rule finds a phonetically natural explanation in the new theory as a rule of the incompatibility in a root of two glottalized stops. There are a number of languages with glottalized stops which have this rule of the noncooccurrence of two glottalics in a root. The second rule can be explained as the noncooccurrence in a root of sounds differing in the feature of voice, that is to say, cooccurring consonants in a root must agree in voicing.

SECTION IV

AFROASIATIC STUDIES

AN INQUIRY INTO THE FORMATION OF THE MIDDLE ARAMAIC DIALECTS¹

DANIEL BOYARIN
Ben Gurion University of the Negev

0. The *Stammbaum* model of linguistic classification makes two strong assumptions about the history of the language family in question. The first is that the various sub-groups have diverged from a once unitary state, and the other is that, once having diverged, they did not significantly re-converge. It is for this reason that Hoenigswald (1973: 59) can remark:

If the tree is a true description of actual history, and if the shared innovations are significant rather than trivial (that is, if they are not open to the suspicion of independent duplication)

¹"Middle Aramaic" is used in two senses in Aramaistic literature. Formerly, it was used to signify the six great literary dialects of the 1st millennium CE (=Christian Era), to wit, Jewish Palestinian, Christian Palestinian, Samaritan, Syriac, Mandaic, and Babylonian Jewish Aramaic. More recently, a classification system, proposed by Fitzmyer (1971:22), and accepted by Kutscher (1971:347-8), uses "Late Aramaic" for the above, reserving "Middle" for what I call "Standard Literary Aramaic" (following Greenfield 1974). It is obvious by now that in this paper the older terminology is revived for reasons which may reveal themselves below; they are beyond the scope of explicit consideration here. This paper is a much revised version of one read at the American Oriental Society in Spring, 1976, under the title "Is Syriac Eastern Aramaic?" I should like to acknowledge the very valuable help of those colleagues and teachers who read and commented generously on earlier versions of this paper including Profs. Z. Ben-Hayyim, J. Blau, M. Goshen-Gottstein, J. H. Greenfield, S. Morag, L. Schiffman, S. Shaked, M. Sokoloff, and R. Steiner. To all I am grateful. Any errors are, of course, my own.

one example is as good as a hundred. In other words, if "one" shared innovation links A and B significantly against C, there should be none to link A with C or B with C...

The phenomenon of isoglossic overlapping of innovation areas has been cited as an argument against the validity of the notion of the family tree. It would be truer to say that trees depict certain types of history (involving clear breaks without subsequent contact) and overlappings according to the "wave" pattern depict certain other types.

The purpose of this paper is to inquire into the most plausible model of the history of the Aramaic language family, so that we may determine what type of classification is most appropriate thereto. In the light of the above-cited comments, the question resolves itself down to two empirical issues:

1. Have we grounds to assume the required earlier unity?
2. Is there "isoglossic overlapping" of innovation areas, i.e., are there dialects which share innovations now with one group now with another, thus violating Hoenigswald's condition?

Our inquiry will begin by attempting to address the second of these questions.

1.0. Our inquiry shall be focused on the six Aramaic languages attested in literature and inscriptions from the first millennium of the Christian Era (CE). They are: Galilean or Palestinian Jewish Aramaic, Samaritan, and Christian Palestinian Aramaic in Palestine; Syriac in the North Mesopotamian province of Osrhoene and adjoining areas of North Syria; Babylonian Jewish Aramaic and Mandaic in Babylonia. These six languages are classed by scholars into two branches, to wit, West Aramaic, containing the first three, and East Aramaic, containing the last three. Together, these languages are referred to as Middle Aramaic.

1.1. It is an undeniable fact that the languages known as East Aramaic share four significant innovations: (1) substitution of /l/ ~ /n/ for

/y/ as the 3rd pers. masculine preformative in the future tense; (2) loss of the determinative function of the "emphatic state"; (3) the suffix /ê/ rather than /ayyā/ as the masculine plural of nouns; and (4) loss of the infix /nn/ between indicative future verbs and accusative suffixes (Ginsberg 1942:234). It follows that if it can be shown that any of these languages shares significant innovations -- indeed even one -- with a language or languages of the other "branch", then it will have been shown that the *Stammbaum* is not the best model of the history of the family. Accordingly, it is to the search for evidence of such intersecting isoglosses that our inquiry now turns.

2.0. In each of the following sections, an hypothesis of the history of a particular Middle Aramaic isogloss will be presented. In each case, an attempt will be made to show that it is plausible to regard one form as an innovation, and that that innovation is common to Syriac and Palestinian Aramaic, or one of its dialects.

2.1. The Masculine Singular Possessive Suffix of Masculine Plural Nouns:

2.1.1. In Old Syrian Aramaic, Imperial Aramaic, Palestinian Aramaic, and Syriac, the masculine singular possessive suffix, when attached to masculine plural nouns, has the form /-auhī/ (or forms derived therefrom). In Babylonian Aramaic (this term includes Mandaic when not further qualified), the form is /-êh/ or /-ê/. Since these last forms are identical with the singular forms, i.e., singular noun plus singular suffix, Nöldeke (1875:178) interpreted them as resulting from analogy. However, as shown by Ginsberg (1942:233 and n. 19 there), the form <-ay?ii> in the Uruk Inscription (a Seleucid period Aramaic incantation in cuneiform from Babylon, cf. Garbini 1971 for literature) seems to show that the ancient Babylonian Aramaic form was /-ayhī/ and not /-auhī/. Ginsberg's view has received dramatic confirmation from the Babylonian

Aramaic Hatran inscriptions which have /-ayhī/ (Rosenthal 1978: 87j). Now */-ayhī/ would necessarily have yielded /-êh/ ~ /-ê/ in later Babylonian Aramaic, since apocope of final vowels (and /h/ in some sub-dialects) and contraction of diphthongs are both regular processes in that language.²

2.1.2. Since the etymologies of both /-auhī/ and /-ayhī/ are moot,³ we should have no grounds for deciding which form is a retention in Aramaic as a whole and which an innovation, were it not for other evidence, and it is just this issue which is crucial to our inquiry. Areal linguistics suggests an answer to this question, for at a diametrically opposite corner of the Aramaic speaking world in northern Syria, we find this morpheme spelt <-yh>. The forms in question are found in the inscriptions of Samʿal (modern Zinčirli [see map]) and date from the eighth century BCE.⁴

²For the apocope, cf. /ʔaβūh/ ~ /ʔaβū/ "his father" < */ʔaβūhī/ (Nöldeke 1875:177). This explanation is thus far to be preferred to Kienast's (1957:75) /-ayhī/ > */ayī/ > /ê/, which requires changes otherwise unknown in Babylonian Aramaic, and moreover does not explain the retention of final /h/ in some sub-dialects of BJA. See also Ginsberg's (1942:233, n. 19) remark on Neo-Aramaic.

³The relevant views are Brockelmann's (1908:312 and 479) and Barth's (1913:52-3). According to the former, */-ayhū/ > */-au/ > */-auhū/ (by secondary affixation of the pronoun) > */-auhī/ (by dissimilation). According to the latter, */-ayhī/ was original, yielding /-auhī/ < */-ūhī/ by some mysterious process. In our opinion, Barth's view is impossible, while Brockelmann's is merely less than completely convincing and to be adopted until a better one be proposed (see Kutscher 1972a:26), but the present hypothesis is compatible with both theories, and indeed independent of any etymology for these forms except one that derives /-ayhī/ < /-auhī/. See below n. 5.

⁴The latest discussion of this controversial language as well as earlier literature may be found in Dion (1974 and 1978). The language is undoubtedly Aramaic, because of a large number of important innovations which it shares with other Aramaic dialects. It may share one innovation with Canaanite, to wit, syncope of /h/ in the imperfect of the causative (Dion 1978:117) or has innovated independently. (The fact that the rest of Aramaic was to undergo this shift hundreds of

The spelling <-yh> is moot with respect to the final vowel, and may reflect either /-ayhū/ or /-ayhī/. Either way, however, the form may plausibly be connected with Babylonian /-ayhī/. In the former case, we should have to assume that */-ayhū/ > /-ayhī/ in Babylonian Aramaic, either by analogy or assimilation (cf. Classical Arabic, in which $hū \rightarrow hī$ / $\{\frac{ay}{i}\}$ [Barth 1913:49]). We see therefore that the area of distribution of /-auhī/ is flanked by two lateral areas (Bonfante 1947:368-71) of /-ayhī/. The latter form may be assumed to be the elder, having been replaced by /-auhī/ in all of the central area.⁵ The isolation and general

years later is irrelevant, pace Dion loc. cit.) We detect no proof for the conclusion of Dion (1978:118) that Samalian was "a *branch* of Aramaic which became increasingly independent around 1,000 B.C." Dion takes this *Stammbaum* seriously, for he claims that "one can safely enough ascribe to second millennium Aramaic some features retained by eighth century Samalian, such as free use of precative *lu...or even a relatively long persistence of case-distinction in the masculine plural". According to "wave theory", the other Aramaic dialects could have lost these features entirely long before the common innovations reached Sam'al without preventing the latter from accepting them. The language has thus converged with Aramaic -- not, "become increasingly independent" from it -- and forms, as it were, its own substratum (cf. Greenfield 1978:94-5).

⁵To be sure, the principle of heterogeneity of the older paradigm would suggest the opposite conclusion, namely that "Central Aramaic" /malxay/, /malxayx/, /malxauhi/ "my kings, your kings, his kings" > /malxay/, /malxayx/, /malxayhi/ in Babylonian Aramaic. This is apparently the view of Beyer (1967:246, n. 9). However, this principle itself has a kind of chicken and egg look, since often the heterogeneous paradigm has arisen, itself, from a homogeneous one by phonological change. The principle is, therefore, only clearly applicable when morphological heterogeneity -- not of phonological origin -- is present, e.g., the alternations of /k/ and /t/ in the Semitic pronominal paradigm (Hetzron 1974:191; Blau 1978:31). Nonetheless, the possibility of analogical reformation in Babylonian Aramaic must be considered here as an alternative model.

The comparison of Samalian and Babylonian Aramaic has been anticipated by Kienast (1957), who drew therefrom similar conclusions. (I thank R. Steiner for drawing my attention to this article.) Incidentally, it should be pointed out that Babylonian Jewish Aramaic is not all of a piece with regard to this form (and many others). In the dialect of a group of Talmudic tractates marked by linguistic and other

archaism of Samalian (Dion 1978:117) also support such a view, making it an *area isolata* as well (Bonfante 1945:139). By implication, /-auh̄/, whatever its origin, is seen to be an innovation shared by Old Syrian Aramaic, Palestinian Aramaic, and Syriac, and forming an heterogloss between the last-named and the Babylonian dialects.⁶

peculiarities vis à vis the main part of the Talmud (the so-called *Nedarim-dialekt*; cf. Epstein 1960:14-6 for preliminary description), the form is spelt <-wh>, interpretable as /-auh/, /-au/, or /-ôh/. Thus, <?hwh> "his brothers" (Nazir 5a, ed. princ., mss. and testimonia); <?hwhy> in modern editions is a learned correction. Only Syriac and two aberrant Palestinian inscriptions (Naveh 1978:14) share precisely this form; Palestinian Aramaic in general has /ʔaḥoi/ <*/ʔaḥôh̄/. Should this then be considered as an indicator of the geographical provenience of the dialect of *Nazir* and its congeners? Further evidence is needed. Cf. Beyer (1967:247, n. 10) for whom the matter is quite simple. His often stimulating remarks are marred by apodictic conclusions and over-simplifications, e.g., "...identisch mit dem Nedarim Dialekt des Babylonischen Talmuds und der Gutachten der Gaonen..." Without even considering the issue of the other materials compared by Beyer, it may be said that the *Nedarim Dialekt* is *not* identical with Gaonic Aramaic, although it is similar in certain features. I hope to return to this issue in some detail soon.

⁶Another Aramaic isogloss, namely the split between Eastern dialects having /l/ ~ /n/ as the performative of the 3rd m. future verb and Western dialects with /y/, may provide us a similar picture. As pointed out by Ginsberg (1942:234, n. 26), the /l-/ prefix subsists in Samalian with jussive force. In earlier texts of Babylonian Aramaic, viz., the Aššur Ostrakon (sent to Aššur from Babylonia, and, therefore, Babylonian Aramaic; Greenfield 1978:95, n. 18), the /l-/prefixed jussive is found. Thus, again, since this feature is found at opposite ends of the Aramaic area, it may be regarded as a retention (cf. Dion's conclusion, reached for quite different reasons, quoted in the preceding note). We may, therefore, following Kaufman (1974:126), present the following hypothesis: The precativ particle, /lu/, amalgamated with the 3rd pers. m. prefix at an early date and formed, thereby, a true jussive, contrasting with indicative /y-/. With the loss of the jussive-indicative opposition in Aramaic (see Kaufman 1974:126 for explanation), the old indicative was generalized in Western Aramaic, the old jussive in Babylonia. This elegant explanation is paralleled by another which Kaufman offers for a related phenomenon, to wit, the loss of the indicative-jussive opposition in the suffixes of future verbs. This opposition was marked in early Aramaic by infixing /-nn-/ before

2.2. The Infinitive of the Derived Conjugations:

2.2.1. In the earliest known stage of Aramaic, the infinitive had no preformative in any of the verbal stems (Degen 1969:65).⁷

accusative suffixes in the indicative. In Middle Aramaic, the opposition was lost; the indicative (with /-nn-/) was generalized again in West Aramaic, the jussive (with Ø) in Babylonia. Now, in both of these cases, the earliest stratum of Syriac follows the *western* pattern, i.e., with the /y-/ prefix and the /-nn-/ infix for both indicative and jussive, and only later do the Babylonian forms infiltrate and dominate. One would be inclined to see here genuine features of North Mesopotamian speech, and therefore, if these be innovations, further evidence of the relationship of Syriac and Palestinian Aramaic (contra Beyer 1967:243, who sees here evidence of a "reichsaramäische Einschlag" in Syriac; cf. Greenfield 1974:289, with whose views we are in complete accord). Of course, if the above hypothesis of the history of these features be incorrect, for instance, if no true /l-/prefixed jussive ever existed, then we have no evidence whatsoever for our inquiry.

⁷J. Greenfield (personal communication) claims that the situation in Old (Syrian) Aramaic is by no means as clear-cut as one would suppose from Degen, and indeed a search of the texts revealed that there is not even one case of a Pə'al infinitive (with or without prefix) which I would regard as absolutely certain. Some are arguably Pa'el, some are not certain readings, while others are in unclear contexts or of uncertain etymology and meaning. It is beyond the scope of this paper to undertake a defense of the above statement which would of necessity be both technical and detailed; I hope to return to this subject in the near future. In spite of all this, I consider it likely that the Old Aramaic Pə'al infinitive was prefix-less for the following reasons:

- a. Some of Degen's examples are more compelling than others, e. g., <ld> "to erase", leaving aside some near certain examples in infinitive absolute.
- b. Samalian certainly has only the infinitive without /m/. Since, to my mind, there is no reason to believe that this language is anything but an extremely archaic and isolated Aramaic dialect, this would suggest that the prefix is not, at any rate aboriginal in Aramaic. Of course, it would not allow us to form any conclusion as to whether or not the prefix already existed in "Central" Aramaic.
- c. In Imperial Aramaic, the form <l?mr> (to be translated roughly as "thus": or the like, literally "to say") exists, as well as in the Aššur Ostrakon (Kraeling 1953:133 and passim; Donner-Röllig (1966:44). It is a well-known principle in historical linguistics

Within the course of recorded Aramaic history, therefore, the characteristic /m-/ of the unmarked (G) stem arose and spread over the entire territory.⁸

2.2.2. In most dialects of Imperial Aramaic, the /m-/ prefix remained restricted to the unmarked stem. In these dialects, the unmarked infinitive is *miCCaC*, while those of the derived stems have a characteristic vowel pattern *-āCā*. However, in certain 6th and 5th century BCE Aramaic texts, the /m-/ preformative has been extended to the derived stems. Thus in the Hermopolis Papyri (Bresciani and Kamil 1966), we find such forms as <lmtyh>, <mwšrthn>, <mḥth> (Porten and Greenfield 1968:220), as well as in the Proverbs of Ahiqar (Cowley 1923:216-7) -- in the Proverbs only, the framework story has the older form (Greenfield 1978: 96-7).⁹

2.2.3. Of the Middle Aramaic dialects, Syriac,¹⁰ Galilean,¹¹

that often older morphological (and indeed syntactic) elements are preserved in frozen, stereotyped, and idiomatic constructions. These considerations do not, of course, yet prove anything. However, even should it turn out that the /m/ prefixed infinitive is aboriginal in Aramaic, I should only have to erase paragraph 2.2.1 and the judgment on Kutscher's statement in the next note. The rest would remain as is.

⁸See Solá-Solé 1961:128-9. (This book must be used with great care because of inaccuracies owing to uncritical use of poor and antiquated secondary sources.) This innovation may have found its way into Canaanite (Hebrew) as well; see Numbers 10:2. Kutscher (1954:234) thought that in Hebrew and Aramaic there had been "...a period when both infinitives (*qtl*, *mqtl*) were used side by side indiscriminately". I find such a model counter-intuitive, and in view of the total lack of /m/ prefix forms in Old Aramaic, I believe that the model of innovation and spread of the /m/ prefix is preferable.

⁹The fourth century Palestinian Wadi Daliyeh Papyri (unpublished) apparently do not contain this form. I am grateful to Prof. F. Cross for this information.

¹⁰Syriac has also a further innovation, namely, the abstract ending /-ū/, in place of original feminine /-ā/. This is a back formation

and Samaritan Aramaic have the innovative /m-/ form.¹² A glance at the map will show that this distribution permits the drawing of an isogloss around these dialects, to the exclusion of Christian Palestinian Aramaic on the one hand (Bar-Asher 1977:311-2 has proven that such attestations with /m-/ as do occur represent late artificial Syriac influence), and Babylonian on the other.

2.2.4. Now, various scholars have shown that both of the early documents mentioned above in 2.2.2 may plausibly be identified as a form of Syrian Aramaic, brought to Egypt by colonizers and garrisons from that area (Greenfield 1971:59 and 1978:97; Kutscher 1971a:109).¹³ This fact allows us to construct the following mod-

from the construct form, /-ūθ/, and is quite unknown from the Imperial Aramaic material. One is inclined to regard it as a late and inner-Syriac development (cf. Greenfield 1978:97).

¹¹Other patterns in printed texts and young mss. are attributable to the deprecations of scribes more familiar with other dialects. (Kutscher 1952:passim). Incidentally, Solá-Solé (1961:134) provides a good example of the care required in using his book, since he relies here on Dalman in spite of the fact that he knows Kutscher's work, cited by him on p. 133.

¹²In Babylonia another new formation was developed for the infinitive of derived conjugations. This form has a <w> after the second radical (variously read as /ō/, /ū/, or /au/ ~ /ou/ in different dialects), and an ending /e/. Various explanations have been given for this form (Brockelmann 1908:580; Rosenthal 1936:60-1; Kaufman 1974:128). What is interesting in this context is that in Babylonian Jewish Aramaic this is the only form, while in Mandaic this form competes with a blend of itself and the /m/ preformative. Three interpretations of this last form seem possible: (1) independent analogy; (2) diffusion from Syriac; (3) an ancient West Aramaic legacy in Mandaic (see Greenfield 1978:95). One might want to consider a fourth possibility, to wit, survival of an ancient form, but in our view this is quite unlikely.

¹³It is interesting to note that Kutscher (1971:365 and 370) did not use the /m-/prefixed infinitives as evidence for the "Western" or "Syrian" nature of the Aramaic of these documents. It seems that even the greatest of scholars may be misled occasionally by labels, for Kutscher (1971a:107) wrote: "This characteristic could be localized both in Western Aramaic, i.e., G.A. [Galilean Aramaic, D.B.] and Eastern Aramaic, i.e., S [Syriac, D.B.]". He therefore concluded that this is a

el of the geo-history of the form: The original innovation took place in Northern Syria (*terminus ante quem* early 6th century). It diffused eastward at least as far as the Northern Mesopotamian area, later to be the home of Syriac, and also southward into Palestine.¹⁴ We may suggest, therefore, with a certain degree of confidence, that we have here an example of an isogloss which binds Syriac with the dialects of Northern Palestine and cuts between it

trait which "cannot be localized" (1971:370)! On another point as well, Kutscher (1971:365) has difficulty localizing an apparently Western feature in an Elephantine deed because "It has to be admitted that S(yriac) also had this feature". In both of these cases, however, the problem is an artifact of the *Stammbaum*, for presence of a feature in Palestinian Aramaic, Syriac, and "Western Official Aramaic" gives us quite a precise fix on its origin, namely, somewhere in Syria, once the wave theory perspective is adopted. Furthermore, in the latter case, the feature is found also in Sefire, so the Syrian-Western origin thereof is strengthened considerably (cf. Kutscher loc. cit.). Greenfield (1974:288, n. 42) was certainly much closer to the mark when he wondered if the /m/ prefix in Syriac ought not lead us to reconsider the place of that dialect between east and West.

¹⁴Greenfield (1974:288) considers this to be an aboriginal feature of Palestinian Aramaic and not one owing to diffusion: "We may well assume that the common features of these dialects, known to us from material from the third century and so on, were present in the spoken Aramaic of the earlier period. I would point to the use of the prefixed formans *m-* in the infinitive of all the verbal conjugations as a good example of this phenomenon". The lack of the /m/-prefixed forms in Christian Palestinian Aramaic, however, constitutes a real difficulty for Greenfield's view, for were this a feature of a Proto-Palestinian Aramaic, it should, of course, be present in all the dialects. Greenfield (personal communication) has argued that the absence of /m/-prefixed infinitives in CPA may be due to the influence on the written form of the dialect of Standard Literary Aramaic in this, as in many other, respects. However, the CPA form is /ʔaqtālū/, as opposed to Standard Aramaic /ʔaqtālā/. Now, it is easy to comprehend such an analogical development taking place in a spoken language (cf. n. 10 above), but one would be hard-pressed to explain why scribes would create such a form in a literary dialect -- the scribes of CPA knew Aramaic well, of course. We conclude, therefore, that /ʔaqtālū/ was probably the form of the infinitive in spoken CPA and that the wave or diffusion explanation of the /m/-prefixed infinitive is thereby supported.

and the Babylonian language.

2.3. The 3rd Person Plural Forms of the Perfect:

2.3.1. /ī/ as Marker of the Feminine:

2.3.1.1. In Old Aramaic of both the Common Syrian and Samalian types, the 3rd person feminine plural perfect form is unattested (Degen 1969:64; Dion 1974:81). The masculine form is /-ū/ (ibid.). In some dialects of Imperial Aramaic, on the other hand, we know the form of the feminine to have been /-ū/, identical with the masculine (Ben-Hayyim 1951). The opposition between the masculine and feminine plurals may nevertheless be plausibly reconstructed for the older language. First of all, all of the later dialects have this opposition (for Syriac see below). Since the direction of drift (in NW Semitic at any rate) is towards neutralization of this opposition, it is more plausible to consider this the inherited situation than an innovation of Middle Aramaic. Moreover, in many of the dialects, the feminine plural desinence /-ā/ is identical to that of Ethiopic, as well as to that of the Akkadian permissive (morphologically related to the West Semitic perfect). /-ā/ may thus be considered in Aramaic an inheritance of Proto-Semitic (Nöldeke 1904a:19). The situation in those dialects of Imperial Aramaic where the opposition was lost, then, must reflect a particular and local dialectal development within Aramaic as a whole (Ben-Hayyim 1951:138).

2.3.1.2. The Palestinian dialects of Middle Aramaic do not have the /-ā/ desinence, although they all do maintain the masculine/feminine opposition. In both Samaritan and Christian Aramaic, the ending is rather /-ī/. This form is probably to be regarded as a local innovation, although it is not impossible that it goes back to a primordial dialect split within Aramaic.

2.3.1.3. In Syriac, although all final vowels have been apocopated, the original situation may be recovered by internal reconstruction. Thus, before object suffixes, /-ā/ appears on the feminine plural -- just as /-ū/, also lost by apocope, re-appears before suffixes in the masculine. One may surely infer, as did Nöldeke (1904:135), that Syriac originally had the /-ā/ desinence. However, there is also an orthographic tradition among the Monophysite Christians of Northern Syria, by which the feminine plural is spelt with <y>, as in Samaritan and Christian Palestinian, where, of course, /-ī/ was pronounced. We submit that the *prima facie* interpretation of this datum is that in the Western sub-dialect of Syriac, the feminine affirmative was also /-ī/ before apocope. At least from the standpoint of Syriac, this must be considered an innovation and constitutes, therefore, another isogloss between (in this case a sub-dialect of) Syriac and Palestinian Aramaic.

2.3.1.4. Earlier scholars have denied this interpretation of the data. Nöldeke (1904:37) regarded the <y> orthography as a mere "diacritic mark" of the feminine. *A priori*, it seems to us difficult to conceive of scribes adopting a purely arbitrary convention of this sort to mark a morphological opposition unrealized in the language. To be sure, Nöldeke adduces other cases in the orthography in which it is fairly certain that <y> is being used in precisely this fashion, i.e., as a diacritic mark of the feminine, but these are late and sporadic, and in our opinion, most likely to be seen as analogical extensions of this practice from the 3rd feminine plural where it had a linguistic source. Moreover, the very fact that in the Palestinian dialects, the desinence was genuinely /-ī/ creates a strong case for the legitimacy of this form in Syriac. Nöldeke was, of course, fully aware of the /-ī/ of Palestinian Aramaic, but insisted that it was completely separate from the Syriac <y>, because "das ܝ [<y> D.B.] als Zeichen dieser

Form den ältesten syr. Handschriften ganz fehlt, und so lassen es auch die Ostsyrer fast immer weg" (Nöldeke 1904a:20, n. 3). The latter point is, of course, no problem at all according to our explanation, and neither is the first devastating, since different orthographic traditions may have asserted themselves at different times and in different schools. On the other hand, Schulthess (1924:16) writes of Christian Palestinian Aramaic, "Geschrieben wird das <y>, auch in den jüngeren Hss. ...Ebenso das etymologisch nicht begründete <y> der 3. p. f. pl. des Pf.; wie <ʔmry> ʔamar, sie sagten". This in spite of the fact that Schulthess (n. 1) is aware that in Samaritan the same form occurs:

Dieser diakritische Buchstabe (auch samaritanisch und daher in CP nicht notwendig aus der syrischen Orthographie stammend) darf nicht vom syrischen <qṭly> getrennt und als das uralte, zu ä verfärbte ā verstanden werden;...den jenes ā war in NW-Semitischen schon längst geschwunden, bevor es verfärbt worden wäre: daher ja schon in viel älterer Zeit (vgl. ba. Ke) die Mask. Form für die fem. einzutreten beginnt.

I quite fail to follow Schulthess's argument for the following reasons: (1) He persists in seeing <y> as an odd scribal practice, notwithstanding the fact that it is found in quite unrelated scribal traditions; (2) he asserts that the final ā was long gone in NW Semitic, in spite of the fact that it appears in Targumic Aramaic, the Biblical Aramaic *qre* (Massoretic vocalization), and Babylonian Aramaic. (In any case, this last issue is, in our opinion, irrelevant, since it seems highly unlikely that the /-ī/ of Palestinian Aramaic is *phonetically* derived from /-ā/ [pace Nöldeke, loc. cit.].) Schulthess's strange theory is delivered the *coup de grâce* by the fact that in Christian Aramaic, the final /-ī/ was pronounced according to the latest authority (Bar-Asher 1977:325-6 and especially 313, n. 196), as well as in Samaritan (Ben-Hayyim 1967:188, 1.11, provides an example). We do, of

course, for quite different reasons, find ourselves in sympathy with Schulthess's view that the <qṭly> of Christian and Samaritan Aramaic "darf nicht vom syrischen <qṭly> getrennt werden", and that is precisely our point.

2.3.2. *n*-bearing Forms of the Perfect:

2.3.2.1. On the basis of the data adduced above in 2.3.1.1, one may assert with some degree of confidence that the desinences of the masculine and feminine plural perfect were respectively /-ū/ and /-ā/ (perhaps ~ /ī/) in the Old Aramaic and nearly all forms of Imperial Aramaic (see next section). However, in later dialects, forms with added /-n/ appear.¹⁵

2.3.2.2. We first find *n*-bearing perfect forms in the 3rd century BCE in the Aśoka Aramaic inscriptions from Kandahar in Afghanistan (Kutscher et al. 1969:129, 134). They also occur in Parthian and Pehlevi ideograms, which many Iranologists consider to reflect Aramaic forms of the 3rd century BCE or earlier (cf. Kutscher 1971: 395-8). They also appear in the Qumran Aramaic texts (ca. 2nd century BCE) from the Dead Sea, at the other end of the Aramaic world (Kutscher 1957:4; Sokoloff 1974:18).

2.3.2.3. All the Middle Aramaic languages have *n*-bearing perfect forms, but aside from Christian Palestinian and Samaritan Aramaic, there are not two of them with precisely the same distribution of forms. In the last two mentioned languages, these forms are attes-

¹⁵Such forms occur very rarely in Hebrew as well, as pointed out to us by R. Steiner. It is not quite clear what historical relationship these might bear to the Aramaic forms under consideration here, but one does not see that any possibility would damage the hypothesis offered below.

ted rarely as variants of the /qətaɪ/ form of the feminine, apparently to be vocalized /-en/. Their occurrence in the masculine in these dialects is extremely rare and quite doubtful (Kutscher 1968a:414). Jewish Palestinian splits into two sub-dialects on this matter. The language of the Palestinian Targum fragments published by Kahle (loc. cit.) had /-en/ always in the feminine. Moreover, in IIIy roots, the /-n/ is used with the masculine as well. The "Talmudic" dialect, on the other hand, knows only of /-un/ (/on/ in IIIy) in the masculine, and /-en/ in the feminine. Syriac has /-un/ and /-en/ as variants of the more common forms with \emptyset affix, but only in non-IIIy verbs. In Babylonian Jewish Aramaic, the *n*-forms occur only in the feminine, where they are vocalized /-an/. Mandaic has /-on/ as the regular ending of the IIIy masculine, and no /n/ in the IIIy feminine (Nöldeke 1875:258). In the strong verb, /-un/ is an occasional variant of the masculine, and both /-iun/ and /-ian/ occur as variants of the masculine and feminine respectively (Nöldeke 1875:223).

2.3.2.4. It will be seen that the above distribution of forms presents quite a series of puzzles, nor do we propose to solve most of them. It is possible, however, that we may, nevertheless, derive some information useful for our inquiry. One of the outstanding difficulties is the difference in the vowel of the feminine forms from dialect to dialect. However, it will be noted that there is an exact correlation between this difference and the difference in vocalization of non-*n*-bearing feminine forms. That is to say, those dialects which have a front vowel in the non-*n*-bearing form, viz., the Palestinian dialects, have also a front vowel in the *n*-bearing form, while in Babylonia, where only /-ā/ is known for the non-*n*-feminine, also /-an/ occurs as the *n*-bearing form. Therefore, it seems plausible that whatever analogical (or less-probably phonological) process is responsible for the *n*-forms, it involved only addition of the /n/ itself, and

no change in the vowel (other than the phonetic change /i/ > /e/, owing to the syllable now being closed, see below 2.4.2). The fact that the Syriac feminine form also has /e/ -- not /a/ -- now becomes significant. Our hypothesis allows two interpretations of this datum. If the original /ī/ vowel of the feminine hypothesized in the previous section was still extant, then the Syriac just added /n/ thereto. However, it seems more likely that the *n*-bearing forms are altogether borrowed from a Palestinian (or Syrian) dialect similar to Galilean in this respect, and constitute, therefore, an additional isogloss. Either of these possibilities allows us to solve an outstanding problem in the explanation of the Syriac forms. They had originally been considered as analogical extensions of the imperfect endings. Nöldeke (1904a: 18) pointed out that this theory does not account for the vowel of the feminine, which, in the imperfect is /ā/. However, Nöldeke's assumption of analogy from the pronominal forms /-hon/ and /-hen/ also founders on a similar reef, since the verb forms have /u/ in the masculine, while the pronouns have /o/. Moreover, Nöldeke's hypothesis would require us to seek a different explanation for the dialects which vocalize these forms differently. The present hypothesis, that /n/ alone was added to the perfect plural forms and the original vowel preserved, solves this problem quite neatly.

2.3.2.5. Assumption of borrowing of the *n*-forms by Syriac allows us to suggest a solution to another problem, namely, there paradoxical non-use in the IIIy, while the evidence of the other dialects points toward the primacy of *n*-forms precisely in this class.¹⁶ We suggest the following explanation for this restriction: The /-un/ and /-en/ formatives diffused into Syriac after the apocope of final long vowels (but not diphthongs). The forms

¹⁶Cf. 2.3.2.3 above and 2.3.2.6.1a below.

of the 3rd pers. plu. perfect of the sound verb were then identical to the sing. masc., to wit, /kəθaβ/ "he wrote", "they (m. and f.) wrote". To this, the borrowed suffixes could readily have been attached, yielding /kəθaβun/ and /kəθaβen/ for the masc. and fem. plu. respectively. The IIIy, on the other hand, had always retained separate diphthongal desinences, viz., /ʔeθā/ "he came", /ʔeθau/ "they (m.) came", /ʔeθai/ "they (f.) came", so the borrowed endings never came to be adopted for those verbs.

2.3.2.6. We are, of course, fully aware that the above two paragraphs provide only a *possible* construction of the data, by no means a *necessary* one. We believe, however, that even should the hypothesis be incorrect, nonetheless, the coincidence of the /e/ vowel in the *n*-bearing feminine of Palestinian Aramaic and Syriac constitutes an isogloss binding the two. This argument is only valid if the forms in question are indeed innovations and not retained from an earlier common form of the language. We are constrained, therefore, to discuss here an hypothesis of the genesis of these forms which proposes precisely that. On the basis of the attestations from the Kandahar Inscriptions and the Middle Persian ideograms, Coxon (1977:298)¹⁷ claims that the forms belong to "the early eastern branch of official Aramaic". He concludes:

On the basis of the evidence collected here, the observation can be made that the nunation (= *n*-bearing D.B.) variant in the Perfect 3 m. pl. of the verb is a feature of both the eastern and western branches of Aramaic. Chronologically, however, it would appear that it was first employed in eastern Aramaic and only later infiltrated into the western branch. E. Y. Kutscher has pointed out that IQGa (= the Qumran Genesis Apocryphon D.B.) bears many marks

¹⁷Thanks are due M. Goshen-Gottstein for this reference.

of eastern influence, and one can suggest that the nunation variant may well be one of them.

As for Syriac, Coxon somewhat tentatively suggests that the *n*-forms there are a legacy of Official Aramaic, since "Syriac is lineally descended from Official Aramaic".

2.3.2.6.1. Even were Coxon's theory tenable, the vowel-coloring (although not the /*n*/) of the feminine form could still be claimed as an isogloss between Syriac and Palestinian Aramaic. However, in our opinion, Coxon's view is quite unlikely for the following reasons:

- a. In the, by now quite extensive, corpus of connected *eastern* Official Aramaic, the *n*-form never occurs, while the *n*-less form is frequent (e.g., Driver 1954: 13-4 and passim). Moreover, in the fourth century Official Aramaic of the unpublished Wadi Daliyeh Papyri, the *n*-bearing forms do not occur (Prof. F. Cross, oral communication). Therefore, it seems that Kutscher's (1971:396) conjecture that the form reached Kandahar and Middle Persian from the Official Aramaic of that century is also without foundation. To be sure, the materials we have from the fourth century are exceedingly meagre, but what we have all points toward continuation of the old perfect forms without /*n*/. Such aberrant types of Aramaic as the Kandahar inscriptions and ideograms (see below) hardly seem a firm basis for conjecture.
- b. The *n*-forms in the later languages do not seem to be a continuation of those in Kandahar and the ideograms by reason of their distribution. Thus, in the Palestinian

Targum dialect and in Qumran¹⁸, the forms are confined to IIly (and feminines in the latter case), while in other Palestinian dialects, they appear only in the feminine. In Kandahar and the ideograms, the forms do not observe such restrictions, occurring, indeed, primarily with masculine strong verbs. The same considerations hold for the Babylonian dialects, since in Mandaic there is evidence that the forms are primary in IIly, secondary in the strong verb, while in Babylonian Jewish Aramaic, they are confined to the feminine. Whatever conjectures may be employed to explain all these facts will not, we trust, do away with the impression that there was no connection between the Middle Aramaic and Kandahar etc. developments -- even if the latter should prove to be genuine Aramaic forms (see below).

- c. As argued by Nöldeke (1904a:17-8), the fact that the forms /kəθaβun/ and /kəθaβen/ do not appear as */kaθβun/ and */kaθβen/ shows that they must have made a rather late appearance on the scene -- after the operation of pre-tonic reduction. There is some reason to suspect that the operation of this rule was later than the fourth century, and should that be so, we would have here an argument against the Syriac forms being descended from Official Aramaic.

¹⁸But see Sokoloff (1974:147), where a non-IIly *n*-form is considered as a possibility -- in my opinion, a rather unlikely one. The only certain example in the Job Targum is also IIIy. We must not lose sight of the possibility that these are all plural participles, e.g., <?tyn>, <bʿyn>, etc. (cf. Fitzmyer 1966:112, citing Ginsberg). In that case, the earliest *n*-forms in anything other than the extreme Oriental periphery would be in the Palestinian inscriptions of the first centuries CE.

- d. In the earliest strata of Syriac, viz., the inscriptions and the Old Syriac Gospels (cf. Beyer 1966), we find only *n*-less forms. Now, even according to the questionable and unclear theory espoused by Coxon that Syriac is "lineally descended from Official Aramaic", it is precisely these early texts in which the "reichsaramäische Einschlag" is to be sought (Ibid.). Their absence from these texts is *prima facie* evidence against Coxon.

2.3.2.6.2. In our opinion, therefore, the *n*-bearing forms of the Aśoka Inscriptions and the ideograms are probably a distinct phenomenon from the similar development in later Aramaic. If the former represent genuine Aramaic at all in this matter, it would seem that it was a local (Iranian ?) dialectal development of limited spread. There is no reason to suppose that such analogical developments could not have taken place more than once in Aramaic, as they did in other Semitic languages (Nöldeke 1904a:18 -- Note that our argument vis à vis Syriac is based on the coincidence of the /e/ vowel in the feminine as well). However, it seems equally as likely that the *n*-forms in Aśoka and in the ideograms were artificial scribal creations, representing no living dialect of Aramaic at all. Neither type of text was produced by scribes for whom Aramaic was a spoken tongue, so we have merely graphic analogy from the imperfect forms. This view is supported by the fact that in the ideograms the <-wn> is added to the participle as well, where it almost surely belonged in no Aramaic dialect which ever lived (Rundgren 1967; cf. Kutscher 1971:396). As for the Kandahar inscriptions, the extent of the scribe's knowledge of Aramaic may be divined by his barbarism <!ʔmwhy w!ʔbwhy> "to his mother and father" (Kutscher et al. 1969:134-5 and n. 17). Now, again, such a development

by analogy (the proper Aramaic form being, of course, <l?mh wl?bwhy>), is quite easily imaginable in a living dialect, but since we have no evidence that it *did* take place anywhere, and since the Kandahar scribe was almost certainly not a native Aramaic speaker, we may most plausibly take it as an error. Therefore, such a construction as <hwtyrn wyhwtyrwn> "they have grown and they will grow" (Kutscher et al. 1969: 128) may also provide the explanation for the presence of *n*-bearing perfects in these texts.

2.3.3. To sum up the results of this section, it seems plausible to assume that in West Syriac at least, the 3rd pers. fem. plu. pfct. once ended in /-ī/, as in the Palestinian dialects. Moreover, the /-en/ variant of this form in Syriac is also shared with the Palestinian dialects, and most particularly with Galilean (as opposed to Babylonian /-an/ and Mandaic /-ian/, cf. above 2.2.3). Since both of these forms, viz., /-ī/ and /-en/, are innovations, if the data have been correctly construed, they constitute further isoglosses between Syriac and Palestinian Aramaic.¹⁹

2.4. In this section, we shall consider two phonetic/phonological changes apparently shared by Syriac and the Palestinian dialects. Since in cases such as these, the possibility of mere parallel development is real and present, we shall be mindful to present arguments against the probability of it being so. However, again, much is in the realm of hypothesis -- even more so, perhaps, than above.

¹⁹Another possibility which cannot be excluded, however, is that the Monophysite Christians did not speak Syriac but only wrote it. If they spoke a dialect quite similar to Galilean Aramaic, we could explain the *n*-forms (and the <y> orthography as well) as intrusions from the spoken tongue. Keeping this in mind as a possibility, I shall continue to assume here that their spoken and literary tongues were both of the same "branch" at least and at least at one time had been quite similar.

2.4.1. Older Aramaic (and synchronically underlying) initial /yə/ becomes /ṭ/ in all the Middle Aramaic languages,²⁰ providing an apparent case of diffusion of an innovation over the entire territory. In Babylonian Aramaic, this shift encompassed the environment /yəhV/ as well, thus /yəhaβ/ > /ṭhaβ/ "he gave" in Babylonian Jewish Aramaic and Mandaic (Epstein 1960:77; Macuch 1965:97). In Palestinian Aramaic, however, early /h/ syncope (which deleted /ə/ as well) removed /yəhV/ as a possible environment for this shift, creating the heterogloss: Babylonian /ṭhaβ/ ~ Palestinian /yaβ/ (Dalman 1905:98; Schulthess 1924:14 and n. 19). In Syriac, as well, the form is pronounced /yaβ/ (see below), forming a Syriac-Palestinian isogloss.²¹ Note that our argument is not based on the presence of the /h/-syncope rule in Syriac, which could almost certainly be taken as coincidental parallel development, but on its ordering with respect to /yə/-vocalization, since each rule destroys the environment of the other. The historical inference which may be made is that in both Palestine and the Syriac area, /h/-syncope took place early, before /yə/-vocalization. The similar chronology of the rules makes it somewhat less likely that we have here a mere accident.

2.4.1.1. Now, it could be that we have here only a lexical

²⁰For Syriac, see below; Mandaic (Nöldeke 1875:55 and n. 5 there: "Mehr oder weniger geschieht dies in allen aram. mundarten"); BJA (Epstein 1960:77); the case is clinched by reverse spellings like <yhky> = /ʔihaxe/ in the Columbia Pesachim ms. In Palestine, we find this phenomenon without any doubt in Samaritan (e.g., Ben-Hayyim 1967:67 and passim); CPA (Schulthess 1924:76 Ann. 1); and Galilean Aramaic, e.g., in the Geniza Targum fragments (Kahle 1930:1 and passim). To be sure, there is no evidence of this shift in the Palestinian epigraphic materials, but neither is there proof that it had not occurred.

²¹Alleged <yb> at Persepolis in the 5th century BCE (Kutscher 1971:139) presents no problem, since, as pointed out to us by J. Greenfield, the text is correctly read <rb>. Cf. Bowman 1970:pl. 10.

isogloss, which is almost certainly the case with the other examples of early /h/-syncope in Syriac, viz., /yūḏā/ "Judea" and /yūḏāyā/ "Jew", competing in Syriac with /ṯhūḏā/ and /ṯhūḏāyā/. However, this seems less likely in the case of the common word "gave". Another possibility is that frequent use of the verb made it particularly susceptible to reduction.

2.4.1.2. This is a good opportunity to note what must be obvious by now to specialists, namely, that in this paper, phenomena regarded as "Syriac" belong to very different strata of the language. Thus, in the present case, the orthography retains <h>, but the /h/ is ignored in traditional reading, and marked as silent in manuscripts from quite early times. In other cases, viz., the putative /-ṯ/ ending of the fem. plural, the evidence is drawn from orthography, as opposed to reading and vocalization tradition. In the next considered case, we rely precisely on the vocalization. All this may show, however, is that the isoglosses, to the extent they are correct, belong to different chronological periods, which would, in any case, be obvious.

2.4.2. Another phonological innovation of Palestinian Aramaic (and Hebrew !), which seems to have diffused into Syriac, is the shift of */i/ > /e/ in closed syllables. This process is already found in Biblical Hebrew,²² e.g., /lōveš/ "he wore" < */labiš/

²²Bauer-Leander (1922:195, §d') state the conditions of this shift as open syllables, before loss of final short vowels, thus */labišu/ > */labešu/ > /lōveš/. The reason for this seems to be the necessity to prevent Philippi's Law (by which accented /i/ > /a/ in closed syllables) from applying. Even by their lights, one would still not need to suppose that /i/ > /e/ in open syllables, but only that Philippi's Law was earlier and was blocked, because these syllables were open. Later, when the syllables became closed, Philippi's Law was no longer active in its

(Bergsträsser 1918:148-9).

2.4.2.1. This shift is characteristic of Western Aramaic as well (Kutscher 1968:227-33) including Western Syriac (Nöldeke 1904:33), while in Babylonian Aramaic, /i/ is retained.²³ Eastern Syriac has both types as (free) variants.

original form, and /i/ > /e/, not /a/. However, according to Blau, this shift of /i/ > /e/ took place after the loss of final vowels as part of the *Philippi's Law process* -- under slightly different conditions (main stress, as opposed to secondary stress [Blau 1968:37, n. 45]). The importance of all this is that it enables us to place Philippi's Law, the /i/ > /e/, and the ultimate lowering of all short /i/ to /ε/ in closed syllables in Palestinian Hebrew and Aramaic in one context. (Kutscher [1968:226] has proven that the last was complete by the 3rd century BC.) Also, we may now see the /i/ ~ /e/ heterogloss between Eastern and Western Aramaic in the light of the /u/ ~ /ɔ/ heterogloss also extant between them, thus /ħɔxməθɔ/ "wisdom" in Palestinian Aramaic, but /ħuxməθɔ/ in Babylonian. (Cf. Kutscher 1968: 242-51 for further discussion of this phenomenon as well.)

²³/labiš/ is therefore precisely what would be expected in the Uruk Inscription from Babylonia. The following statement of Moscati's is thus clearly wrong: "The vocalization of this text has -- as compared with the general development of North-West Semitic -- a rather archaic appearance: for example, the original *i* remains in *la-bi-iš* as against Heb. /lābēš/" (Moscati et al. 1964:51, emphasis mine). Kutscher (1966:195) already called Moscati to task for not citing at least the fact that Biblical Aramaic has many forms in /i/, not /e/. The mixture there, by the way, probably results from East Aramaic influence on the vocalization (cf. Kutscher 1971:376 and 403). We have relied for this statement on two witnesses: the reading tradition of Classical Mandaic -- not identical to Modern Mandaic (see below) (Macuch 1965:262ff.) -- and the vocalization of the *Halakhot Pəsuqot Codex* (see Boyarin 1978). Both of these traditions have only /i/ in this position. On the other hand, as S. Morag reminds us, the Babylonian traditions of Biblical Aramaic, Targumic Aramaic, and the Yemenite tradition of Babylonian Talmudic Aramaic, all have a rule of morphophonemic alternation between /i/ and /e/, showing therefore /e/ in these final closed syllables (Morag 1963:204-5). He regards this as manifesting a dialect of Babylonian Aramaic, which may very well be the case. However, another possibility must be borne in mind, to wit, that these are manifestations of a classical/Westernized liturgical reading tradition, while *Halakhot Pəsuqot* is closer to Babylonian speech (see Boyarin 1978: 146, n. 26, referring to Morag, and especially Boyarin 1978:158-60).

This distribution seems consistent with an hypothesis of a Palestinian innovation diffusing its way Eastward.

2.4.3. In fine, then, we have two phonological innovations for which a (much weaker) case may be made that they are isoglosses of Syriac and Palestinian Aramaic.

2.5. Although in none of the cases discussed here are we willing to claim that we have placed the only possible construction on the data, it seems not unlikely that we may have uncovered at least the one sought-after isogloss between Syriac and Palestinian Aramaic.

3.0. Having argued that the likelihood seems good that Syriac is significantly linked by at least one shared innovation with the Palestinian dialects, we should now turn to the question of whether or not a stage of a uniform proto-Aramaic speech may be assumed.

3.1. We shall leave from consideration those antiquated views which regarded all pre-Christian era Aramaic as dialectally undifferentiated (Rosenthal 1936:102-3). There remain, then, for consideration those models which suppose the development of an Aramaic *koinē* during the time of the Persian Empire, from which *koinē* the Middle Aramaic dialects diverged. Such is the view of Rosenthal (1978:85).

...There were indeed large numbers of native speakers distributed over a wide area, having centuries of a different and separate history behind them. It is an obvious and necessary a priori assumption that their spoken Aramaic must have shown great diversity.

In any case, Morag's remark gives us pause. Moreover, the fact that Modern Mandaic also has /e/ in these forms shows, at the very least, with what ease such shifts take place. Again, as pointed out to us by S. Morag, the diffusion model is weakest in application to these phonetic shifts.

If, as I continue to believe, all the later Aramaic dialects can be shown to go back basically to Official Aramaic, this would have been the result of a process by which the written language was adopted as a sort of upper-class standard speech, thereby succeeding in suppressing existing major dialectal variations for a long period of time.

(Cf. also Fitzmyer 1971:22-3.) With all due respect, it is not quite clear to me what Rosenthal, writing in 1978, might mean by "Official Aramaic". We know, by now, of major dialectal differences within the corpus of Aramaic texts from the Persian Empire (see Greenfield 1978 and earlier literature cited there). Official Aramaic, by which we mean the sort of Aramaic written in the Imperial chanceries, was only one of the types of *written* Aramaic then current; surely, if anything, the spoken Aramaic of the time could only have manifested greater diversity. Moreover, as we have tried to show, some of the dialectal differences in Middle Aramaic may be shown to go back to the Imperial period (2.2) and perhaps even earlier (2.3). What seems to be troubling Rosenthal is the fact that innovations vis à vis Old Aramaic are shared by all Middle Aramaic, viz., the *m*-prefix infinitive of the unmarked stem, the loss of interdental consonants, the reduction of pretonic vowels, and others. However, all of these phenomena could also be accounted for by a diffusion-convergence model, such as we are suggesting here.

3.2. Tal (1975:xi) has also assumed a *koinē* model:

However, the eastern dialect which is most closely related to the language of T(argum) J(onathan) is Syriac. This may be explained by the special status enjoyed by Syriac, whose lexicon bears evidence to the fact that its classification under the category of Eastern Aramaic is not as simple as it appears on the surface. In several spheres, there is a wide disparity between it and the other Eastern dialects and there are instances of elements common to Syriac and the Western dialects. Such words as: אַנְחַנְךָ, סְגִילְתָּא, כְּעוּר etc. could be adduced to completely upset the dialectal

map.²⁴ May it not be assumed from the Syriac lexicon that this dialect belonged to the stratus of the *כולח* prior to the establishment of the local dialects.

3.2.1. Tal's explanation is not satisfactory for the following reasons:

1. As argued above, there is no reason to assume the existence of an Aramaic *koinē* at any time, remembering that a *koinē* means a single dialect or dialectal compromise which becomes the common *spoken* tongue of a large area. To be sure, we *could* assume that the cited lexemes were characteristic of Standard Literary Aramaic (for which see Greenfield 1974) and from there found their way into Syriac literary or even spoken use. In fact, however, there is no necessity whatever to make such an assumption, and the next two points weaken it further.
2. The *koinē* model does not explain adequately the very data for which it was proffered, to wit, innovations shared by Syriac with Palestine and not with Babylonia. Were we to assume that these were features of a *koinē* which included all Aramaic, they would, by definition, have included Babylonian as well. Since they did not, such a *koinē* could not have existed, or, at any rate, if it once had, it had disappeared before the formation of these very isoglosses. On the other hand, if what is meant is a Syro-Palestinian *koinē*, we must ask what center of power or prestige was there in this area which would naturally have had its dialect promoted to a *koinē*? Rather, we maintain, if there were any such *koinē* at any time, it would have been the *end* of a complex process of convergence and not the beginning of divergence (cf. Blau 1969:41ff. and 1978:24).
3. Many of the features which have been adduced here (as opposed to those cited by Tal) are *not* characteristic of such Standard Literary Aramaic texts as *Targum Onkelos*,

²⁴Tal must surely mean that these isoglosses upset the *Stammbaum*. Since Syriac forms a continuous area with Palestinian Aramaic, such phenomena hardly may be said to upset the map, which almost by definition allows for intersecting isoglosses.

and therefore, *a priori*, do not go back to the standardized language.

We believe, therefore, that the existence of an Aramaic *koinē* from which the Middle Aramaic dialects diverged -- necessary for the construction of a *Stammbaum* -- may also be excluded.

4.0. We have, until now, argued against the historical description and classification of Middle Aramaic by means of the *Stammbaum* model, dividing the dialects into an eastern branch comprised of Syriac and Babylonian Aramaic, and a western-Palestinian branch. We shall conclude this paper by asking what sort of other models could be constructed to account for our data.

4.1. A possible interpretation of the isoglosses between Syriac and Palestinian Aramaic would be based on demographic history. Aramaic speech was introduced into Palestine by importation of population. According to the Biblical account (II Kings 17:24, cited Dupont-Sommer 1949:88), at least some of these people came from areas of Syrian Aramaic speech (viz., Hamat). One could assume that all of the innovations adduced above (to the extent that they are not figments of my imagination or "drift") originated before this period (or a somewhat later one of population movement into Palestine) and included Northwestern Mesopotamia in their isoglottic boundaries, thus creating a *genetic* relationship between Palestinian Aramaic and Syriac, obviating the need to assume any subsequent contact between them. This model would lead to the rather surprising conclusion that Syriac is *genetically West Aramaic*, with an overlay of secondary Babylonian influence.

4.2. However, the most attractive model, in our opinion, is one of linguistic contact, and thus common development, between the Aramaic dialects of Palestine, Syria, and Mesopotamia. Therefore, some of the isoglosses adduced above might have arisen after Aramaic was already

established in Palestine and spread by diffusion over the area including Syriac and the Palestinian dialects. There do not seem to be any historical problems with such a model. This whole area was closely settled, and moreover, the caravan routes from Palestine and Syria to Babylonia and Armenia ran right through Edessa (Segal 1970:3-4; Jones 1972:219). Finally, it seems reasonably safe to assume that the Aramaic speech area was not broken by areas of other languages. Although there were penetrations of Arab tribes into the area in quite an early period, at least some (if not most) of these penetrations resulted in the conquerors adopting the Aramaic language of the conquered (Dussaud 1955:71). Moreover, even when Arabic speaking kingdoms were established, these seem to have been initially confined to the eastern part of lower Syria, on the fringes of the desert (Dussaud 1955). Greek was certainly spoken throughout the area, but there seems to be no more reason to assume that it ousted Aramaic as a spoken tongue in Syria than it did in Palestine, where the linguistic situation is well documented.²⁵ The Arabic dialects of the area now spoken show very clear and pervasive signs of an Aramaic substrate, as is well known. All in all, in spite of a notorious lack of documentation of Semitic from Syria in the Hellenistic-Roman periods (Greek and Latin having apparently become the written languages for much of the area), it seems not unreasonable to assume a continuous area of Aramaic speech up until the Arab conquest. A similar conclusion is reached by Ginsberg (1970:121):

After the fall of the Achaemenian empire, Greek offered Aramaic serious competition in Graeco-Roman Syria and Palestine. Nevertheless, the latter remained the language of the majority of the population of the Fertile Crescent...until the Arab conquest of that region in the 7th century CE.

²⁵Nor was the boundary between the Roman and Parthian Empires a bar to cultural contact, as demonstrated by Wards-Perkins (1965). This reference was supplied by my colleague Dr. A. Segal.

It is our opinion, therefore, that there is no historical reason to assume that there was not linguistic contact and thus diffusion between the dialects of Palestine, Syria, and Northwestern Mesopotamia, where Syriac had its spoken sources.²⁶

4.3. It should be made clear that the two models are not mutually exclusive; indeed if the various hypotheses advanced in section 2 are correct, both models are necessary.

4.3.1. Let us clarify this by referring to the cases.

4.3.1.1. The /-auhī/ suffix was a feature of Syrian Aramaic by the eighth century BC (*terminus ad quem*). It was certainly introduced into Palestine by the first speakers of Aramaic to arrive there, thus conforming to the first model.

4.3.1.2. The issue is much less clearcut with regard to the /m/-prefixed infinitives of the derived conjugations. Since this form existed in Syrian (and/or North Mesopotamian ?) Aramaic by the sixth century BCE at the latest, and had been imported into Egypt by this date, one could assume that it is aboriginal in Palestine as well, having been brought there by the original Aramaic-speaking settlers. However, the fact that the Christian Aramaic (of Southern Palestine) does not know this form (cf. n. 14 above) seems to indicate that it diffused southward into Palestine *after* Aramaic had been established there.

²⁶One fails to perceive the basis for the following statement of Kaufman (1974:147): "Since reduction of short vowels in open syllables is a feature shared by all of the Aramaic dialects, it must have occurred at a period when all of these dialects were still in close contact, *that is, during the time of Imperial Aramaic at the latest*". (Emphasis mine.)

4.3.1.3. The case regarding the /-ī/ and /-en/ suffixes of the feminine plural seems stronger. Evidence has been adduced that neither was aboriginal in Syriac. It seems quite plausible, therefore, that we have here a Palestinian innovation (in the area of unmotivated morphology where independent development seems less likely), which was diffused northward and into Syriac.

4.3.1.4. The phonological shifts would seem to show the same pattern, although the danger of *parallel* development is much stronger here.

4.3.2. In fine, it seems that the isoglosses between Syriac and Palestinian Aramaic have some a genetic, some a geographic explanation.

5.0. In conclusion, we may present the following *hypothesis* of the formation of the Aramaic dialects.

5.1. From the earliest period of Aramaic known to us, it has been characterized by a continuum of dialects, becoming broader as the centuries passed and the language spread into areas of former Canaanite and Akkadian dominance. In addition to the attested Samalian language, one may hypothesize the existence of a "Babylonian" dialect by the eighth century as well; both were marked off from "Central" Aramaic by the absence of the /-auhī/ innovation. Samalian was not simply a freak, as shown by the fact that geographically proximate Safire shares some isoglosses with it (Greenfield 1978:94-5).

5.2. There is no necessity to assume the existence of a *koinē*, that is, a common *speech* over all the area, from which the later dialects have developed. To the contrary, there seem to have been dialectal differences which were consistent from the Old Aramaic period through Imperial

Aramaic into the dialects. Therefore, those common features of the Aramaic dialects which are not inherited from the very earliest of times may have spread through all the dialects by diffusion, causing them to converge.

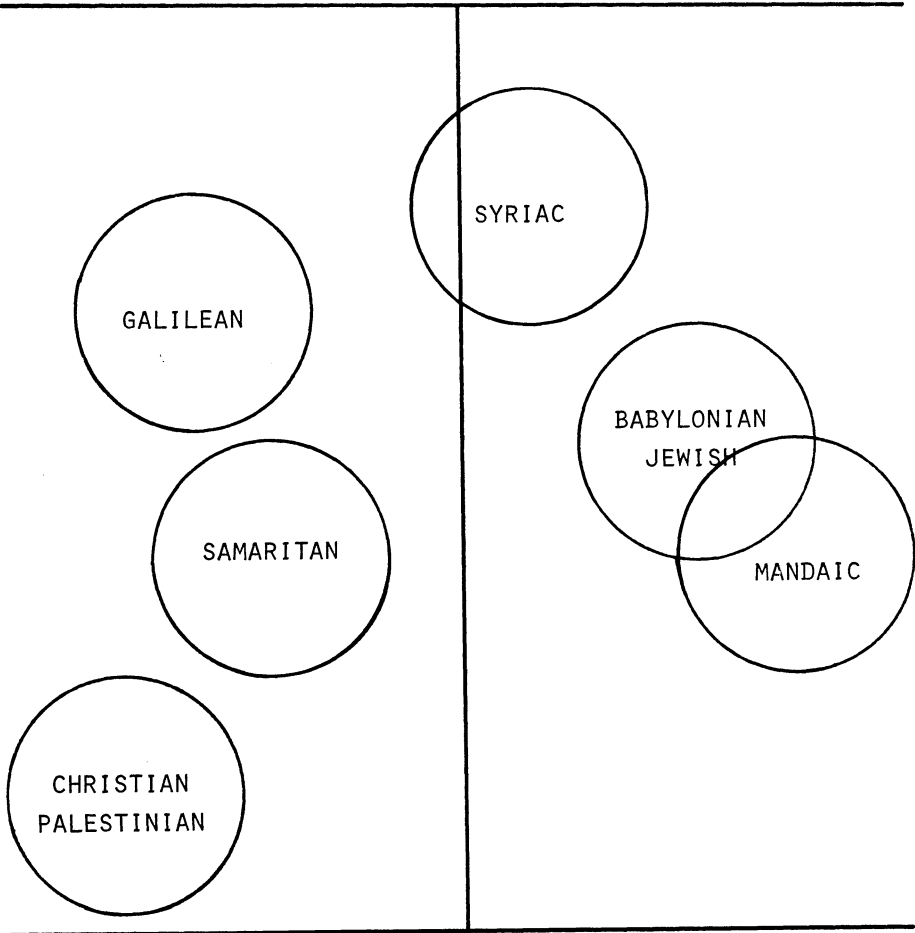
5.3. In a situation such as that just outlined, it is not at all surprising that there should be intersecting isoglosses, i.e., dialects that share innovations, now with the group to one side of them, now with the group to the other side. Such features are a regular phenomenon of linguistic geography. We may only guess that had we more data on the intervening dialects between the great literary centers, we would find much more grading and transition between dialects and dialect groups. In the absence of such data, however, Syriac may be our critical case. As is well known, Syriac shares isoglosses with the east; we hope to have shown the plausibility, at least, that it shares innovations with the west, as well. We submit then that the convergence model of Middle Aramaic dialectal history is likely to be more appropriate than the divergence model (cf. Blau's 1968 and 1969 statements on Arabic dialect history). In effect, what is being proposed is that in so far as the spoken dialects are concerned, the major difference between the pre-Christian and post-Christian periods may be simply the amount of evidence we possess. In the earlier period, dialectal differences were more suppressed by written standards of one sort or another -- later much less so (Ginsberg 1942:232).

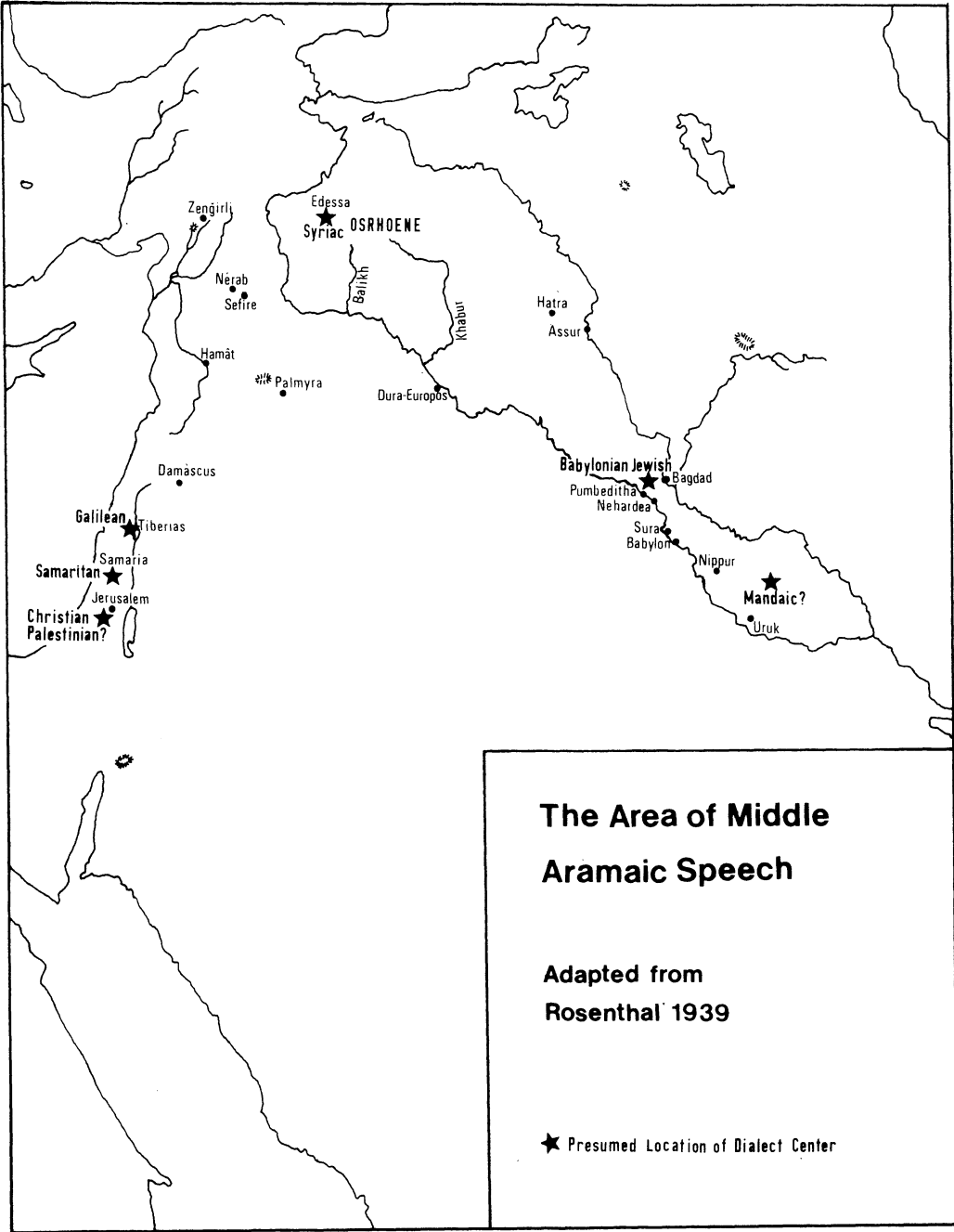
5.4. In the light of all that has been said, one may diffidently suggest that the traditional *Stammbaum*-type classification and diagram of the Middle Aramaic dialects might profitably be replaced by the sort of schematized map that is sometimes drawn for Indo-European by wave-theorists (Pedersen 1931:316). Such a map will certainly show Syriac as bearing strong ties with the Babylonian dialects, but will not deny its special relationship with the Palestinian languages as well. Indeed, perhaps the best formulation remains that of the founder of Aramaic dia-

lectology, the great Nöldeke (1904:xxxi):

Syriac, in the narrower meaning -- that is to say, the dialect of Edessa --, appears to have come somewhat nearer to the dialects of the Tigris regions, than to those of Central Syria or Palestine.

Schematic Representation of Middle Aramaic Linguistic Relationships:





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LES NIVEAUX DE LANGUE DANS LA POESIE POPULAIRE ARABE DU MAGHREB

JACQUES GRAND'HENRY
Université de Louvain

Une relecture récente du beau travail de J. Desparmet: "La poésie arabe actuelle à Blida et sa métrique", *Actes du XIVème Congrès des Orientalistes*, Alger, 1905, tome III, volume 2, p. 437-598 (en abrégé: 1905), nous a incité à examiner de plus près l'aspect proprement linguistique de ces textes étudiés par l'auteur d'un point de vue strictement métrique et poétique, à une époque où la dialectologie arabe maghrébine venait à peine de naître; Les progrès importants réalisés dans cette discipline au cours de ce siècle permettent aujourd'hui d'avoir une compréhension relativement précise des types de langue ou de dialectes qui se manifestent à travers la poésie populaire arabe du maghreb.

Le présent essai a pour objectif de faire apparaître, sur la base de critères exclusivement linguistiques, quelques niveaux de langue totalement distincts qui coexistent dans ce patrimoine poétique authentiquement populaire.

L'examen des textes publiés par J. Desparmet permet une première constatation: la division opérée par l'auteur en genres poétiques (chants andalous, chants d'enfants, chants de femmes, chants des Arabes de la campagne, poésies badines, satiriques et gnomiques, 'Aroubi, Qâdira, zendali) ne coïncide pas du tout avec le classement linguistique qu'on peut y introduire.

Sur le plan proprement linguistique en effet, nous sommes d'avis qu'une division en trois niveaux de langue s'impose:

1. Arabe dialectal andalou et citadin archaïque.
2. Arabe dialectal bédouin de l'ouest algérien.
3. Néo-arabe d'inspiration coranique.

Examinons ces trois niveaux plus en détail:

1. Arabe dialectal andalou et citadin archaïque:

Les traits de l'arabe dialectal andalou et de l'arabe des anciennes villes du Maghreb se retrouvent ici d'une façon typique:

- Au contraire de la règle classique, qui exige toujours l'usage du *māḍī* (parfait) après la conjonction '*idā* "si, quand", on a ici, autant dans les "chants andalous" proprement dits, que dans les "chants de femmes" (citadines), plusieurs cas d'emploi de '*idā* + *muḍāri*' (imparfait). Comparons l'arabe andalou ancien: *idā nanfaḍ min al-mara(t) anī namšī* "when I am through with the woman, I will go" (F. Corriente 1977:136) à 1905:468, II, 1.6: اذا نبيكي من الهجران "quand je pleure sur mon abandon" (chant andalou); 1905:504, VIII, 1.1: اذا يكون داير به الصور "quand le mur d'enceinte l'entoure (litt.)"
- On a une flexion vocalique uniforme des schèmes verbaux sains, tant au parfait qu'à l'imparfait (les anciennes oppositions /a/ : /i/, /a/ : /u/, /i/ : /u/ de la morphonologie verbale ont disparu): ما تنتظر لحالي (vocalisé dans le texte: *mā-tantaḍar-l-ḥālī* alors qu'on aurait *tantaḍir* en arabe classique) "ne compte pas sur le temps (pour me changer)", 1905:482, VIII, 1.7. Cette harmonisation du timbre des voyelles de flexion est très ancienne en arabe andalou. On la rencontre déjà chez Ibn Quzmān (XII^e siècle), voir J. Grand'Henry 1977:677 et F. Corriente 1977:102 et 104.

- Les pronoms, particules et adverbes appartiennent à un fond commun maghrébo-andalou:

"(quelqu'un) qui te vaille (litt. comme toi)". Rappelons qu'on rencontre déjà *bi-ḥāl* chez Ibn Quzmān et *ba-ḥāl* chez P. de Alcalá, avec le même sens (cf. Guz., XIII, p. 30, 1.6). De même en arabe maghrébin contemporain (voir Beaussier 1958:254).

اش ريت منى؟ "qu'as-tu vu?" (1905:477, VI, 1.1). *Āṣ* apparaît déjà comme pronom interrogatif chez Ibn Quzmān sous la forme *eyṣ/eṣ* (cf. p. ex. '*ālā eṣ* "¿porqué?" dans Guz., XVIII, p. 43, 1.2), se retrouve en arabe grenadin plus tardif (cf. *aṣ* dans Seco de Lucena 1955:160) et est utilisé en arabe parlé marocain et dans d'autres dialectes contemporains (voir Grand'Henry 1972:139, note 276).

- Des faits caractéristiques apparaissent aussi dans le vocabulaire:

ما تدري يا شيا تيك "tu ne sais ce que t'apportera?" *dara*, *yedri* au sens courant de "savoir" est habituel en arabe andalou (cf. P. de Alcalá 1928, s.v. "saber [como quiera]"), alors que ce verbe a pratiquement disparu de l'usage maghrébin actuel où il a été remplacé par '*araf*, *ya'raf* (signalé aussi par P. de Alcalá, mais peu fréquent dans les textes). Sur l'emploi de *dara* "savoir" en arabe dialectal andalou, on consultera M. de Ayala 1911:14: *la lé ma yedri* "al que no sabe" (arabe de Valencia, XVI^{ème} siècle). *bāṣ* (: *b-* + *āṣ*) au lieu de class. *mā* est également ancien en arabe andalou; On le rencontre déjà chez Ibn Quzmān: *eṣ na'mal min rā b'aṣ nutnī* '*aleik* "¿Que otro verso terminado en *rā*' puede decirse en tu alabanza?" (Guz., p. 77, XXXIII, 1.19). Encore utilisé comme pronom relatif en arabe maghrébin moderne, au sens "avec lequel" (cf. J. Grand'Henry 1972:141), *bāṣ* y est devenu essentiellement conjonction de but: "pour que". On observera aus-

si que la poésie populaire du Maghreb ancien (petites villes du nord protégées des influences bédouines par une ceinture de montagnes berbères d'un côté et la mer de l'autre) utilise exclusivement يرى ، رای au sens de "voir", ce qui correspond à l'usage andalou, alors que les parlers modernes du Maghreb, sous influence hilālienne probablement, connaissent tous يشوف dans ce sens (seuls quelques parlers de juifs marocains, à Fès p. ex., ont conservé l'usage de *rā* "voir" à l'exclusion de *šāf*). Citons quelques emplois de *rā* "voir" dans la poésie populaire du Maghreb contemporain:

ريته "le Prophète je l'ai vu" (1905:512, II, 1.2).

Ou encore dans une Qādrīa: حتى نراكم بالعين "lorsque je vous verrai de mes yeux". On notera à ce propos dans un chant andalou moderne la conservation d'un emploi typique de يرى ، رای propre au moyen arabe:

يا ترى اه يا حبيبي "Dis-moi, hélas! mon amie" (Compar. sur cet usage, J. Grand'Henry 1976b:63). Dans le genre Haouzi encore, on notera la survivance de la particule négative *lēs* qui correspond à l'arabe andalou ancien *lēs* (ar. class. *laysa*): ليس يا هذا النصاب "tu as beau faire, séducteur" (1905:569, I, 1.10); ليس يوجد الانفكاك "je ne saurais rompre le charme". On comparera p. ex. avec: *les tatbut al-abānī* "los edificios no se consolidan" (Guz., p. 40, XVII, 1.8).

2. Arabe dialectal bédouin:

Il correspond manifestement dans les textes publiés par J. Desparmet au dialecte bédouin et rural de l'ouest algérien. Plusieurs indices le manifestent: في وعد الريم واشتا خيب سعدى ؟ "malgré les serments de la gazelle blanche, qu'est-ce qui a fait échouer mon bonheur?" (1905:518, II, 1.2). Le pronom interrogatif *wāšta* qu'on rencontre ici est typique de l'arabe parlé par les ruraux et les bédouins de l'Algérie occidentale. On le rencontre aussi au Sahara, dans la région du Mzāb (compar. W. Mar-

çais 1908:155 et J. Grand'Henry 1976:69). On peut encore préciser davantage l'origine géographique de ces textes par l'examen de formes verbales typiques:

نلقى وجه الحبيب يشفاوا ثمادى "que je voie le visage de l'amie et que mes yeux guérissent". La forme $y\check{e}\check{s}f\hat{a}w$ permet de localiser le dialecte utilisé ici dans la région du *nord-ouest* algérien, dans la vallée du Chélif probablement. La forme de la 3ème p.p. de l'imparfait du verbe défectueux y est en effet en $y\check{e}C_1C_2\hat{a}w$ pour les verbes qui ont un parfait en C_1C_2a et un imparfait en $y\check{e}C_1C_2a$ à la 3ème p.s. Un peu plus au sud, dans la région de Saida et du Sahara occidental algérien, on a un imparfait en $y\check{e}C_1C_2u$ à la 3ème p.p. (cf. J. Grand'Henry 1976:49). Des faits de morphologie nominale et de syntaxe viennent encore confirmer l'origine bédouine occidentale de ces textes:

- a. L'usage de pluriels en $C\check{v}C_2C_2\bar{v}Ca$, typiquement bédouins:
دايم رحالة (litt.) "toujours nomades" (compar. J. Grand'Henry 1976:62-3).
 - b. L'accord du collectif $n\bar{a}s$ "gens" au féminin singulier:
تجيهم الناس تجرد "et que les gens viennent au-devant d'eux pour payer leurs impôts" (1905:525, V, 1.18). Cet accord de $n\bar{a}s$ au féminin singulier est typique des parlers de bédouins (compar. J. Grand'Henry 1976:90: $\check{s}uft\ en-n\bar{a}s\ t\bar{z}\bar{u}r$ "j'ai vu les gens qui font des dévotions". Dans les parlers de ruraux et même de nomades ou semi-nomades des Hauts-Plateaux, par exemple à Bou-Saada, l'accord se fait au masculin pluriel).
3. Néo-arabe d'inspiration coranique (à ne pas confondre avec les $Qa\check{s}\bar{i}da$ "néo-classiques" publiées par J. Desparmet 1905:446-62, qui, à notre avis, ne font pas partie de la poésie populaire).

Ce niveau de langue apparaît principalement dans le *Medḥ* dont l'allure solennelle explique le recours fréquent aux allusions coraniques:

من بعد التوراة الخلق عيسى
 في الانجيل الي خذاوا بعده وراثة
 يا مبعث اخر الزمان الكفر بايسة
 وشهرت الاسلام لا دنس لا خباسة

"...qu'après la Bible, 'Aïssa annonça au monde dans l'Evangile devenu depuis l'héritage de ses disciples; qui fut envoyé à la fin des temps pour être le fléau des faux cultes et pour faire reconnaître que l'Is-lam est sans défaut ni mélange" (1905:583, II, 1.13-6). On soulignera principalement dans ces vers la présence de la construction:

وراثة *elli ḥdāw bā'du urāta* "(litt.) qu'ils prirent après lui comme héritage" de facture incontestablement dialectale (pron. *elli* pour class. *'alladī*, *ḥdāw* pour class. *'ahadū* notamment).

* * *

On voudrait en terminant insister sur le fait que la présence au sein de la poésie populaire arabe du Maghreb de ces niveaux de langue variés correspondant tantôt à des aires dialectales diverses, tantôt à des usages modernes (remaniement de la langue classique en fonction du thème abordé) ou médiévaux (ancienne langue populaire, l'arabe andalou, forme de moyen arabe partiellement conservée dans des textes rimés ou chantés), n'en altère nullement l'homogénéité fondamentale. Cette poésie populaire reste avant tout maghrébine par un certain nombre de traits caractéristiques:

- L'usage de *rā-* comme auxiliaire et verbe d'existence habituel (au lieu de *kān*): *وين راه محمد الهادي ؟* "où est Mohamed le Guide?" (1905:513, II, 1.4).
- L'usage d'auxiliaires verbaux typiquement maghrébins: *ولا* *تليت ننفع ولد الحرام* "et je ne m'obstine guère à faire du bien à un drôle" (1905:520, III, 1.2). *tla* est "un auxiliaire ver-

bal typique du Maghreb occidental; on le rencontre surtout dans le sud-marocain et en Mauritanie" (J. Grand'Henry, *SVAPM*, IV, 1978:212).

L'usage d'une 9ème/11ème forme verbale à signification: "qui devient...(+ nom de couleur ou de particularité physique)":
 ايام بيضا ولاخضارت بعدى (Litt.) les jours sont blancs et ne sont pas devenus verts après moi!". L'usage de la forme *ḥḍarat* doit être rapproché de l'emploi fréquent au Maghreb des verbes *ṣfâr* "il est devenu jaune", *ḍ'âf* "il est devenu maigre" (verbes de schème $C_1C_2\hat{a}C_3$).

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COPTIC DOUBLE CONSONANTS

CARLETON T. HODGE
Indiana University

The Coptic graphemic system includes, in several dialects (most examples here being Sahidic), the doubling of letters. This occurs with both vowels and consonants: *ho:o:le* "to tear off", *bnne* "date-palm tree". Various interpretations of these have been offered. Most scholars would interpret a VV sequence as representing V? (Till 1961: 46; Vergote 1973.1a:12). On the other hand, Śmieszek and Greenberg consider such sequences as writings for V: (long vowels), the latter considering the length as due to the loss of a laryngeal (see Vergote 1973.1a:20; Greenberg 1969:177 *et passim*). Double consonants are generally considered to be writings of C: (long or geminate; e.g., Steindorff 1951:23).

The present investigation considers most doubling, whether of vowels or consonants, as phonologically akin. It is an effort at understanding the reason why such a graphemic device was introduced into the writing system, at finding what phonologic structure triggered the spelling. The facts are well known, and the vowel doubling has been seen to have a clear rational basis. It is necessary to review this pattern briefly before considering the double consonants.

The major relevant factors are: (1) the consonants as known from older Egyptian; (2) the presumed position of the vowels *vis-à-vis* these consonants; and (3) the Coptic spelling. Naturally (2) is largely deduced from (3), but there is some evidence from Egyptian loans in other languages and from other transcriptions (see Vergote 1973.1b). Two

frequent patterns involved are Eg. *C-C-C*, Co. *CV:CVC* and Eg. *C-CC-C*, Co. *CVCCVC*. Where all three or four consonants are represented in Coptic, the pattern is clear:

	Egyptian	Coptic	
C-C-C	d b ḥ	to:bəh	"to beg"
C-CC-C	k s k s	koskəs	"to bend"

Where double vowels appear, the second vowel often occurs in a position where one expects the consonant /ʔ/:

	Egyptian	Coptic	
C-C-C	b i n	bo:o:n	"evil" (m.)
C-CC-C	b i n t	boone	"evil" (f.)

The expected patterns are *Co:Cən*, *CoCCe(C)* (with loss of *-t*). The second vowel is therefore the reflex of /ʔ/. As there was no Greek letter for /ʔ/ and an initial vowel was always said with [ʔ]-: /ʔa/, /ʔe/, /ʔo/, etc., the vowel symbols were natural ones to represent /ʔ/. In *bo:o:n* the second *o*: is taken to represent /ʔə/, following the *Co:CəC* pattern, hence /bo:ʔən/. In *boone* one has a writing for /boʔne/, the second vowel representing only /ʔ/. The /ʔ/ may also derive from other consonants in older Egyptian:

	Egyptian	Coptic	
‘	s ‘ n ḥ	saanš	/saʔnəš/ "to nourish"
r	q r s f	koosf	/koʔsəf/ "bury him"
t (in tr)	m t r t	meere	/meʔre/ "mid-day"
ʒ	w ʒ <u>d</u> t	ouoote	/woʔte/ "greens"

In a great many examples metathesis is involved, *C C₂ C₃* being replaced by *C C₃ C₂*. Compare:

Egyptian	Coptic
<u>d</u> b ‘	to: o: be /to: ?be/ "to seal"
<u>d</u> b ʒ	to: o: be /to: ?be/ "to repay"

A possible sequence for the changes involved is: $\underline{d}vbv' > dv:bv' > dv:'bv > dv: ?bv > /to: ?be/$; $\underline{d}vbv\text{ʒ} > dv:bv\text{ʒ} > dv: \text{ʒ}bv > dv: ?bv > /to: ?be/$. (The lengthening of the vowels in open syllables must precede the metathesis, which results in a closed first syllable. The order of the ‘, ʒ > ? change *vis-à-vis* the others is less clear.) Examples of metathesis with *C-CC-C* patterns are:

Egyptian	Coptic
š r ʔ t (šVr?Vt > šV?rV)	šeere /še?re/ "daughter"
s p ʔ t (sVp?Vt > sV?pV)	seepe /se?pe/ "to remain over"
m n ‘ t (mVnʔVt > mVʔnVt > mV?nV)	moone /mo?ne/ "nurse"

These patterns are all well recognized (cf. Till 1961:46 and references; Vergote 1945:89, 1973.1b:28-33).

Turning to the double consonants, we find the general interpretation to be that $CC = C:$. For example, Steindorff (1951:25; cf. Till 1961:51, 53 and references) assumes changes such as $my > m^? > mm$, $ny > n^? > nn$, $rw > r^? > rr$. If, however, we examine a series of examples, we find a striking parallelism to the phonological pattern underlying the writing of double vowels. *C-CC-C* examples are:

Egyptian	Coptic
<u>d</u> ‘ b t	čbbe "charcoal"
s ‘ b t "purification"	sbbe "to circumcise"
q ʒ r t	kile "bolt"

Final -t is of course lost, but Coptic shows a consonant for each of the remaining three consonants of Egyptian. The middle consonant of the three is in Egyptian one which usually becomes /?/. The following

examples also show three consonants in Coptic corresponding to three in Egyptian:

Egyptian	Coptic	
h b ʾ t	hbbe	"to be low"
s m ʾ t	smme	"to report"
q n ʾ t	knne	"to be fat"
p n ʾ y t	pnne:	"threshold"
b n r t	bnne	"date-palm tree"
s m ʾ (w)	šmmo	"stranger"

The result is clear: where we expect a glottal stop in Coptic, the last two sets of spellings have a double consonant. If we assume that metathesis occurred in the second of these sets, it is the first consonant of the doubling, not the second, which represents the glottal stop in all cases.

An important aspect of the Coptic spelling is not represented in the transliteration used here: the supralinear stroke which indicates /ə/. This should properly occur over the first of the two double consonants in all of the examples above. The phonemic transcription is therefore /čəʔbe/, /səʔbe/, /kəʔle/; /həʔbe/, /səʔme/, /kəʔne/, /pəʔne:/, /bəʔne/, /šəʔmo/.

The reason for the writing of double vowels in the one case and double consonants in the other is a very simple one. One assumes that the convention arose in the use of double vowels (cf. Kahle 1954:212 and 245, n. 2). One must keep in mind that hieroglyphs were used for writing consonants. Even when one is said to represent a vowel, as in very late writings, to an Egyptian the hieroglyph would be ʔV. There are, as a matter of fact, some writings of VV in Coptic, to which Lacau drew attention many years ago (1911), which appear to represent ʔV. These are from the sub-Achmimic *Acta Pauli* (cf. Kahle 1954:193, 206 and references). The Egyptian origin is not known for some of the forms:

Egyptian	<i>Acta Pauli</i> Spelling	Ordinary Spelling	Phonemic
‘ n ḥ	o:o:nh	o:nh	?o:nəh "live"
	o:o:nš	o:nš	?o:nəš "be astonished"
	aanš	anš	?a:nəš "be silent"

Lacau considered the doubling of the vowel a retention of the original consonant under the influence of the following *nc* cluster (see also Kahle 1954:212). The first example shows the normal merger of /ʔ/ with /ʔ/. *VV* is here, exceptionally but clearly, a writing for *ʔV*.

One may say, then, that any writing of *VC* was a writing of *ʔVC*. A Greek vowel symbol was therefore a natural one to use for /ʔ/ in Coptic. One finds similar usage in Akkadian (von Soden 1951:24), and it is clear that the "vowel" symbols of Sanskrit were also *ʔV*, which observation occasionally helps one understand some external sandhi. In all cases of consonant doubling representing /ʔ/, the vowel involved is /ə/, for which there was no linear symbol. The sequence /əʔC/ was therefore rendered by using the stroke over a consonant identical to that following.

One implication of the above interpretation needs to be stressed: the number of instances where reedleaf survives into Coptic as /ʔ/ is significantly increased. Such interpretations as those quoted above, where *ny* > *nʔ*, etc. are to be discarded. What we have is a survival of /ʔ/, not a /y/ which is replaced by /ʔ/ (see Hodge 1977).

Better understanding of a number of Coptic causatives in *t-* is gained by applying the above pattern. Examples are:

Egyptian	Coptic	Phonemic
d i t i n w	tnnoou	/təʔnow/ "cause that they bring"
d i t n ‘ ‘	tnno	/təʔno/ "pound"
d i t ‘ b	tbbo	/təʔbo/ "purify"
d i t h b i	thbbio	/təʔbyo/ "bring low"
d i t w n m	tmno	/təʔmo/ "nourish"

Of $d \dot{\imath} t$ only t ($< d$) survives. The $/ʔ/$ is in each case the survival of a consonant of the following verb: $/-ʔno-/$ (cf. *eine* $/ʔi:ne/$ "to bring"); $/-ʔno/$ ($< 'nV'$, with metathesis); $/-ʔbo/$ ($< 'b$; cf. $/wop/$ "to be pure" $< w 'b$; the older causative *sbbē* $/səʔbe/$ "to circumcise" is also based on $'b$, not $w 'b$: $*s 'b$ "to make pure"); $/-həʔb-/$ ($< h \dot{\imath} b < h b \dot{\imath}$; cf. $/həʔbe/ < h b \dot{\imath} t$ "to be low" above). The t -causative of $/wo:m/$ "eat" shows a glottal stop: $/-əʔmo/$. This suggests that the Egyptian word $w n m$ had a dialect variant $w \dot{\imath} m$ (or $w r m$), the root being $n m / \dot{\imath} m$, with a prefix w - (as $w 'b$).

A possible "reverse" example, where CC apparently represents $/Cəʔ/$ is *lle:b* "jesting", which Černý (1976:73) compares to Aramaic *le'e:b*.

It is not claimed that all VV, CC sequences in Coptic derive from older $Vʔ$ or $ʔV$. The situation is not that simple. Double vowel and particularly double consonant sequences may also be due to other factors, including analogical formation. What is claimed is that at some fairly early stage in the history of Coptic VV and CC sequences were devised to represent a surviving medial glottal stop for which there was no separate symbol.

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DIGLOSSIA IN ANCIENT HEBREW AS REVEALED THROUGH COMPOUND VERBS

GARY RENDSBURG
New York University

There existed in the Hebrew of Greco-Roman times a diglossia which has generally not been recognized. By far the largest number of texts from this period are the rabbinic works such as the Mishna, the Tosefta, and the early Midrashim, which are composed in a Hebrew remarkably different from literary Biblical Hebrew (BH). The language of these texts is called Mishnaic Hebrew (MH), and whereas formerly most scholars considered it an artificial, scholarly language (Geiger 1845; Strack and Siegfried 1884), MH is now universally recognized as the spoken Hebrew of the time (Segal 1927 and 1936; Chomsky 1964:160-8, 208-11, 303-4; Rabin 1970:318; Kutscher 1971b:1590).

A smaller number of texts from this period are the Dead Sea Scrolls (DSS), composed in a Hebrew which is basically the same as BH (Yalon 1967:71; Kutscher 1971a:1584). Thus the Hebrew of Greco-Roman times existed in basically two forms: a spoken dialect represented by MH and a written dialect represented by the Hebrew of the DSS. This statement is not only consonant with linguistic science -- that is, that people speak and write quite differently (Woolbert 1922; Bloomfield 1933:52, 291-2; Joos 1967; Malmstrom 1977:85-6) -- but also makes sense when we take note of the two different literatures.

The DSS are true literary achievements. They include thanksgiving hymns which rival the canonical Psalms, law codes which recall the legalistic language of portions of the Pentateuch, and apocalypses which be-

token the book of Daniel. The Mishna and related works, on the other hand, were not even written originally, but rather were collections of legal sayings and interpretive tales of the Palestinian rabbis. Moreover, when the Mishna etc. were committed to writing, they were recorded in the spoken dialect so that all, even the uneducated, could understand their contents.

The same two dialects are synchronically attested several centuries earlier as well. From the preface of the Greek translation of Ben Sira (Ecclesiasticus), we can infer that the Hebrew original was composed ca. 180 B.C. Ben Sira's contemporaries, Yose ben Yoezer and Yose ben Yohanan (Herford 1962:25), are quoted in one of the earliest portions of the entire Mishna, Avot 1:4-5 (and elsewhere occasionally, e.g., Pesahim 1:6, Ketubbot 8:11), where not only their speech but also the speech of their predecessors is unmistakably MH. But the sayings of Ben Sira are couched in BH (Segal 1972:20). Again, whereas Ben Sira set out to write a true literary work and thus used BH, the Mishna merely recorded the sayings of his contemporaries who undoubtedly spoke MH.

It is easily seen that parallel written and spoken dialects of Hebrew coexisted in Greco-Roman times. This same diglossia must also have existed in Biblical times, as will be demonstrated below. Furthermore, since the literary works of Biblical and Greco-Roman times show a marked similarity, there is no reason to believe that the spoken Hebrew of the two periods was distinctively different. And since MH represents the spoken Hebrew of Greco-Roman times, anticipations of MH in the Bible may be used as a guide to the spoken Hebrew of Biblical times.

Anticipations of MH in the Bible are legion. Among the more obvious ones are the use of the personal pronoun אנו /ʔānû/ "we" in Jr 42:6¹ instead of the usual אנחנו /ʔānahñû/; the use of the demonstrative pro-

¹ אנו appears in the written consonantal text. The Masoretes in an attempt to expunge this vulgarity from the text instructed the reader to vocalize it as אנחנו /ʔānahñû/.

noun זז or זה /zô/ or /zô^h/ "this" (fem. sg.) in II Kg 6:19, Ek 40:45, Ho 7:16, Ps 132:12, Qo 2:2, 2:24, 5:15, 5:18, 7:23, 9:13 instead of the usual זה /zô^ht/; and the use of the relative pronoun ש /še/, /ša/, /šā/ "that" or "which" in Gn 6:3, Ju 5:7, 6:17, 7:12, 8:26, II Kg 6:11, Jn 4:10, La 2:15, 4:8, 5:18, I Ch 5:20, 27:27, commonly in Psalms, Canticles, and Qohelet, and in the proper names מְתוּשָׁאֵל /mətûšāʔēl/ "Methusael" and מִישָׁאֵל /mîšāʔēl/ "Mishael" instead of the usual אֲשֶׁר /ʔāšer/.

All of these forms appear regularly in MH to the exclusion of the usual BH forms. They and others like them must have been characteristic of the spoken Hebrew of Biblical times. That the BH forms had not become extinct by Greco-Roman times is evidenced by their attestation in the DSS (Kuhn 1960:20, 24, 63). How such forms as אנו /ʔānû/, זז or זה /zô/ or /zô^h/, and ש /še/, /ša/, or /šā/, crept into the Biblical text was explained by G. R. Driver: "Colloquial expressions are common in all spoken languages and indeed often make their way into literature; and the Old Testament is no exception to the rule..." (Driver 1970:232).




The above examples are all very basic items in Hebrew morphology; indeed they are all pronouns. The diglossia of ancient (i.e., and Greco-Roman) Hebrew can also be demonstrated through more complex forms. One such construction is the compound verb.




Every grammar of BH recognizes the fact that the classical Hebrew verbal system possessed the perfect and the imperfect, the perfect with *waw* consecutive and the imperfect with *waw* consecutive, and the participle. (Forms such as the imperative, the jussive, the cohortative, the construct infinitive, and the absolute infinitive are also recognized but generally they fall outside the scope of this study.)




Grammars of MH are quick to point out that MH lost the perfect with *waw* consecutive and the imperfect with *waw* consecutive (as well as the jussive, the cohortative, and the absolute infinitive), but that it developed a compound verb consisting of the finite part of the verb הִיהָ /hyh/ "to be" (whether perfect, imperfect, or imperative) plus the participle (either active or passive) (Segal 1927:72-3, 150, 156-7; Segal

1936:110-1, 124-5, 130-1; Kutscher 1971b:1600).

What is not commonly recognized is that BH too used compound verbs, to wit, the perfect with *waw* consecutive and the imperfect with *waw* consecutive, or more simply the consecutive tenses. In the former, the finite verb is preceded by the existential particle (or copula) *wa-*, and in the latter, the finite verb is preceded by the existential particle (or copula) *wa-* plus an assimilated consonant (probably *-n-*).



This *wa-* is to be identified with Egyptian  *iw* (Young 1953; Gordon 1957:275-6; Gordon 1965:110-1), "an old verb...with the meaning of the copula ('is', 'are', etc.)" (Gardiner 1957:35). This  *iw* is the most common element in Egyptian in the formation of compound verbs, just as *wa-* is the most common element in Hebrew in the formation of compound verbs.² The assimilated consonant, which converts the normally future imperfect into a past, is perhaps to be identified with the Egyptian  *n*, the indicator of the past tense (Young 1953:252; Gordon 1957:276).³

The analogies between the Hebrew consecutive tenses and the Egyptian evidence go beyond the realms of phonetics and morphology. Syntax too can enter into our discussion. Egyptian  *iw* often is combined with the perfective⁴  *sām-f* to form the 




²This identification may also be recognized in another instance. Both Hebrew *wa-* and Egyptian  *iw* may be used to introduce circumstantial clauses. In the case of Hebrew, it is the regular way to introduce circumstantial clauses. In the case of Egyptian, it is used when the subject is a suffix-pronoun (Gardiner 1957:247; Thacker 1963:168), though in Coptic, circumstantial clauses are regularly introduced by *ε ε* (derived from Egyptian  *iw*) (Till 1970:167-8). Note the similarity between Hebrew *וְהוּא יֹשֵׁב* /*wəhū? yōšēb*/ "as he was sitting" in Gn 18:1 and Egyptian  *iw-f hr mdt* "as he was speaking" in Sinube B:2.


³The assimilated consonant of imperfect with *waw* consecutive may also be identified with Ugaritic *-n* (Gordon 1965:110-1).

⁴Egyptology has adopted the terms "perfective" and "imperfective" while Semitics uses the terms "perfect" and "imperfect". Generally speaking, Egyptian perfective and Semitic (especially West Semitic) perfect correspond, and Egyptian imperfective and Semitic (especially West Semitic) imperfect correspond (Thacker 1963:158).




iw sdm-f construction. Most interesting is the fact that the addition of the  *iw* converts the perfective  *sdm-f* used to express past events (Gardiner 1957:287) into a verb which is imperfective in meaning (Gardiner 1957:385). In Hebrew, the addition of *wa-* to a perfect verb does the exact same thing! It causes a verb which normally expresses past tense to express the future tense.



The foregoing may be schematized as follows:

	FORM	TENSE
Hebrew perfect	קָטַל /qāṭal/	past
Egyptian perfective	 <i>sdm-f</i>	past
Hebrew perfect with prefixed <i>wa-</i>	וַקָּטַל /wəqāṭal/	future
Egyptian perfective with prefixed <i>iw</i>	  <i>iw sdm-f</i>	future



The other common compound verb in Egyptian, the  *iw sdm-n-f* form, is the regular past tense form (Gardiner 1957:56). This construction corresponds exactly to the Hebrew imperfect with *waw* consecutive (and assimilated consonant). The phonetic and morphological parallels are easily seen in the following parsing of the two forms:

HEBREW	EGYPTIAN ⁵	PART OF SPEECH
וַ /wa/	 <i>iw</i>	existential particle (or copula)

⁵Whereas the Hebrew compound verb is parsed in the order in which the morphemes appear, it is important to note that the Egyptian compound verb is not, viz.,  *iw sdm-n-f* not **iw-n-f-sdm*. The past indicator  *n* does not occur after  *iw* in Egyptian in the sense that **wan-* occurs in Hebrew (or *wn* in Ugaritic).

י /yy/ < *ny	 n-f	past tense indicator and personal pronoun
קטל /qtl/	 sām	verb stem

More important is the use of these two analogous compound verbs. The Egyptian is used most often at the beginning of narrative sentences and moreover "gives a certain smoothness and elegance to recitals of past events" (Gardiner 1957:56). The same holds true for the Hebrew form. The imperfect with *waw* consecutive can only be used at the head of a sentence (or clause), and it too gives a certain elegance to story telling. Any speaker of Hebrew will readily realize the difference between *ויאמר האיש* /wayyômer hāʔîš/ and *אמר האיש* /ʔāmar hāʔîš/ or *איש אמר* /hāʔîš ʔāmar/. All three mean exactly the same: "the man said". The only difference is that the first one is reserved for literary style, and the latter two are more colloquial.

The same holds for the perfect with *waw* consecutive. It too can only appear at the beginning of a sentence (or clause) and it also is reserved for the written dialect. There is little question then that the Hebrew consecutive tenses are to be treated as compound verbs. Phonetically, morphologically, syntactically, and stylistically, they are to be identified with the Egyptian compound verbs  *iw sām-f* and  *iw sām-n-f*.

This identification has generally gone unnoticed in Egypto-Semitic studies. As a case in point, we may cite T. W. Thacker's otherwise stimulating article on "Compound Tenses Containing the Verb 'Be' in Semitic and Egyptian". After listing all the various Semitic compound verbs formed by the verb "to be" plus the finite part of another verb, Thacker (1963:164) noted:

...it is interesting to note that Hebrew alone has no compound verb-form consisting of the verb "be" with the perfect or imperfect of another verb. Why this should be is difficult to see, unless the existence of the common idioms *ויהי* "and it came to pass" and *והיה* "and it shall come to pass" hindered such a development.

What Thacker failed to realize is that the same verbs which he thought prevented the development of such compound verbs in Hebrew are in actuality the very verbs he thought were lacking. Accordingly, Hebrew, like all the other Semitic languages listed by Thacker, did possess compound verbs consisting of the copula and the finite part of another verb, namely, the perfect with *waw* consecutive and the imperfect with *waw* consecutive.

To back up my suggestion that the Hebrew consecutive tenses were used solely for the written dialect,⁶ we may again turn to the diglossia of Greco-Roman times. In the spoken dialect of the time as represented by MH, these forms are completely absent (Segal 1927:72 and 1936:124). In the written dialect of the time as represented by the Hebrew of the DSS and of certain liturgical pieces, these forms are used (Segal 1927:72 and 1936:124; Kutscher 1971a:1587). The same must have been true during the Biblical period. The written dialect used the consecutive tenses, viz., their regular appearance in BH. The spoken dialect doubtless did not.

What then of the aforementioned compound verbs used in MH? These verbs, which consist of the verb *היה* /hyh/ "to be" and the participle, were used by spoken Hebrew in antiquity. The best evidence for this comes again from the Greco-Roman period. These forms, commonly called progressive tenses because they generally are used "to indicate repeated, usual, concurrent, etc., action" (Kutscher 1971b:1600), are common in MH but practically absent from DSS Hebrew (Kuhn 1960:55, 57-9).⁷

That the progressive tenses were also current in the spoken Hebrew

⁶For the variant views of S. R. Driver, Jacob Milgrom, and Joshua Blau (and my arguments against their opinions), see below.

⁷Progressive pasts are not attested. Except for the cliché which appears in Ml 8:11, 9:1, 9:7, 16:9, 17:15, progressive futures appear five times, in Se 1:18, Ml 2:6-7, 7:12, 8:6, and Dm 4:12. Progressive imperatives are also wanting. These figures do not include the recently published Temple Scroll which reportedly contains several more examples of the progressive tenses (Milgrom 1978:106). (I am unable to cite these examples by verse as a copy of the *editio princeps* [Yadin 1977] has not yet reached me.)

of Biblical times is evidenced by their occasional attestation in BH. The present author has collected 74 examples of progressive tenses in BH.⁸ The following are a few examples of the progressive past:

Gn 39:22	הוא היה עשה /hû? hāyāḥ ſôšeḥ/ "he was doing"
Ex. 3:1	משה היה רעה /môšeḥ hāyāḥ rôḥeḥ/ "Moses was shepherding"
I Sm 2:11	והנער היה משרה /wəhannaʕar hāyāḥ məšārēt/ "and the lad was ministering"

The following is an example of the progressive future in BH:

Ne 13:22	יהיו מטהרים /yihyû miṭṭaharîm/ "they will be purifying themselves"
----------	--

The following is an example of the progressive imperative in BH:

Ps 30:11	היה עזר לי /hěyēḥ ſôzēr lî/ "be helping me"
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For those who wish to check the other examples of progressive tenses in

⁸While 74 examples of progressive tenses in BH may seem a large amount, it cannot be considered evidence for the progressive tenses having been characteristic of written Hebrew. Two reasons militate against this: (1) these 74 verbs represent less than 1% of the verbs in BH, and (2) the data from the Greco-Roman period demonstrate that the progressive tenses were used in speech and not in writing.

BH, cf. Gn 37:2, 42:11, 42:31, Lv 13:45 (twice), Nu 14:33, Dt 9:7, 9:22, 9:24, 31:27, Js 5:5, Ju 1:7, 11:10, I Sm 17:34, II Sm 3:6, 6:17, 7:16, 10:5, I Kg 2:45, 5:1, 10:3, 12:6, 18:3, 22:35, II Kg 4:1, 6:8, 9:14, 17:33 (twice), 17:41, 18:4, Is 2:2, 59:2, Jr 14:16, 26:18, 26:20, 32:30, Ek 34:2, 43:6, 46:1, Zc 3:3, 13:1, Ps 10:14, 30:8, 113:2, 122:2, Jb 1:14, 1:21, La 1:1, 1:16, Dn 8:5, 8:7, 10:2, 10:9, Ne 3:26, 5:18, 6:14, 6:19 (twice), 13:5, 13:26, I Ch 17:14, 19:5, II Ch 10:6, 18:34, 22:4, Si 5:13, 18:32, and line 3 of the Yavneh Yam inscription (Gibson 1971:28). As to how these colloquialisms got into the Biblical text, we may again refer to G. R. Driver's (1970:232) quote cited above: "Colloquial expressions are common in all spoken languages and indeed often make their way into literature; and the Old Testament is no exception to the rule..."

The evidence suggests, nay demands, that ancient Hebrew developed two types of compound verbs. The written Hebrew of both Biblical and Greco-Roman times used compound verbs composed of the existential particle (or copula) *wa-* and the perfect or imperfect (with assimilated *-n-*). The spoken Hebrew of both Biblical and Greco-Roman times used compound verbs composed of the inflected copula *היה* /hyh/ and the participle.⁹

Most Hebrew grammarians have been oblivious to this dichotomy. Whereas I treat these compound verb types synchronically, most authors have treated them diachronically. S. R. Driver (1969:170), for example,

⁹A third type of compound verb, which I call "consecutive progressives", also existed in ancient Hebrew. These verbs are actually triple compound verbs composed of (1) the existential particle (or copula) *wa-* or *wa-* plus assimilated *-n-*; (2) the finite part of the verb *היה* /hyh/ "to be"; and (3) the participle. Examples of consecutive progressives are *וַיְהִי בָנָה* /wayhî bôneh/ "and he built" in Gn 4:17, *וַהֲיִית מַמְשֵׁשׁ* /wehâ-yîtā mēmaššēš/ "and you will grope" in Dt 28:29, and *וָאֲנִי צָם* /wāʔēhî šām/ "and I fasted" in Ne 1:4. Although many scholars (Bergsträsser 1962:73-4; S. R. Driver 1969:170-1; Segal 1936:131; Thacker 1963:161) lump the consecutive progressives and the simple progressives together, they should be distinguished. The former, like all consecutive tenses, are wanting in MH and thus are to be considered characteristic only of the written dialect.

considered the progressive tenses a late development in Hebrew, though he did recognize the fact that they are used in the early Biblical books. He wrote:

But altogether the more *frequent* use of the combination is characteristic of the later writers -- in the decadence of a language, the older forms are felt to be insufficient, and a craving for greater distinctness manifests itself: the rarer, however, its occurrence in the earlier books, the more carefully it deserves notice.

The above enumeration of Biblical verses, however, shows that the progressive tenses are not much rarer in the early books. Of the 74 examples cited, 21 (or 28%) are from the time of David or earlier (about 34% of the Bible).¹⁰ These figures do not suggest the chronological development which Driver seeks to impart. In fact, these figures show that progressives are only somewhat less frequent in the earlier books of the Bible.

Furthermore, for Driver to be correct in viewing the progressive tenses as a chronological development, the literary works of the Greco-Roman period would have to exhibit as regular a use of the progressives as does the Mishna. We have already seen that such is not the case. To the contrary, progressive tenses are rare in the Hebrew of the DSS (cf. above, fn. 7). Driver's statement, while it may have looked good in 1892 (55 years before the discovery of Qumran), must be discarded in favor of the explanation offered here.

Whereas Driver is excused for his never having reaped the benefit of the DSS, contemporary scholars are not. In discussing the recently published Temple Scroll (the last of the major Qumran documents to be

¹⁰I recognize the pitfalls in using such statistics. The debated dating of virtually every book in the canon makes this arithmetic almost meaningless. On the other hand, no one can deny the general statement presented here: progressive tenses are not much rarer in the earlier portions of the Bible.

published), Jacob Milgrom (1978:106) noted:

The language follows biblical style, but slips of contemporary syntax and idiom betray the scribe. The following examples will suffice: compound verbs with the auxiliary "to be"...

Milgrom implied that such compound verbs are contemporary only with the Qumran scribe and not with the Biblical period. Would he likewise explain the 74 examples of progressive tenses found in BH? This argument may hold for the 71 progressives in the Bible canon and for the two examples in Ben Sira, but it cannot suffice for the one example which occurs in the Yavneh Yam inscription of the 7th Century B.C. (Gibson 1971: 27)!

The opposite approach was chosen by Joshua Blau. Blau (1971:26) concluded that since the standard BH verbal system employs the consecutive tenses וַיִּקְרָא /wayyiqṛā/ and וַיִּקְרָא /wəqāṛa/, we can "assume a similar system in the spoken language". In light of all the evidence presented above, this cannot be the case. From the diglossia of Hebrew in Greco-Roman times -- where consecutive tenses are wanting in the spoken dialect (MH) but are used in the written dialect (DSS Hebrew) -- we can infer the same dichotomy in the Hebrew of Biblical times. Moreover, the comparative Semitic evidence, namely the Egyptian,¹¹ suggests that the consecutive tenses were employed to create an elegant literary style.

Whereas Milgrom's analysis neglected the totality of the Biblical evidence, Blau's analysis neglected the Mishnaic and DSS evidence. Attention to all of the available evidence reveals the following conclusion: *compound verbs of the progressive type were used by spoken Hebrew throughout antiquity and compound verbs of the consecutive type were used by written Hebrew throughout antiquity.*

¹¹For the propriety of calling Egyptian a Semitic language, see the evidence collected by Otto Rössler in his masterly article entitled "Das Ägyptische als semitische Sprache" (Rössler 1971).

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I would like to thank Gary Speziale of New York University for preparing the hieroglyphics which adorn this paper.

THE STRUCTURE AND INFLEXION OF THE VERB
IN THE SEMITO-HAMITIC LANGUAGES¹

PRELIMINARY STUDIES FOR A COMPARATIVE SEMITO-HAMITIC GRAMMAR

OTTO RÖSSLER
Marburg

Translated by Yoël Arbeitman

AUTHOR'S FOREWARD

Thirty years after the completion of the "Preliminary Studies", it can be observed, with gratification, that the thoughts set forth there have lost neither interest nor relevance for contemporary research; and, indeed, the author has had the privilege of seeing fellow researchers and friends in the United States request a new edition in English, a request which concurs with a long-cherished private wish of the author himself. Nevertheless, there were various difficulties to overcome, of which one needs to be mentioned: the difficulty of bridging a period of thirty years research, both one's own and that of others. This research has on the whole confirmed the hypothetical reconstruction made at that time, but also has caused many things to appear in a new light.

This new light applies particularly to the section which deals with Egyptian (its lack of a prefix conjugation) and with Chadîc (Hausa and its relatives). The reproducing unannotated at the present of what was said thirty years ago would only partially mislead, partially appear out of date. The author originally intended to write his own comprehen-

¹Originally appeared as "Verbalbau und Verbalflexion in den Semito-hamitischen Sprachen: Vorstudien zu einer vergleichenden Semito-hamitischen Grammatik", in *Zeitschrift der Deutschen Morgenländischen Gesellschaft*, Band 100, Heft 2 (1950), pp. 461-514.

sive annotations to his earlier work. This, however, particularly in the area of Egyptian and Chadistics, would have developed into a voluminous and far-reaching new treatment. For various reasons (some entirely personal), the author could not complete such a new treatment in the near future. On the other hand, quite minor alterations and additions, inserted sparingly, sufficed for today's reader in the other sections. Thus, it ultimately seemed best to leave out totally several paragraphs which have become problematic (§§54-57), i.e., to delete here without any substitution. The problems in question need to be and shall soon be tackled in another context, in collaboration with the young science of Chadistics. It is the author's hope that these "Preliminary Studies" may for the present fulfill the expectations of his colleagues.

My gratitude is extended to all friends who have requested and desired the new appearance of my work, primarily, however, to my fellow researcher and unflagging, insightful, masterly skilled translator, Yoël Arbeitman. I would also like to extend my gratitude for the invitation, which I deem an honor indeed, to participate in the Gedenkschrift for J. Alexander Kerns. May our joint effort be dedicated to the memory of this great man.

TRANSLATOR'S FOREWARD

By a happy coöccurrence of events, we have the fortune of presenting Professor Rössler's monumental monograph to the English reading world in the J. Alexander Kerns memorial volume. This article, originally published in 1950, remains after thirty years amongst the very major achievements of comparative linguistics -- it is a dateless work.

Professor Kerns cherished this monograph in the extreme. Several years before his death, he asked me to translate the work for one of his classes. It has long been the desire of Professor Rössler to see an English version of this article be published. The author and the translator join in dedicating this English version to Professor Kerns' memory. We hope the article will now be available to many young scholars, not only those whose native language is English, but those who read English as their primary or only second language. The English version is printed here with the kind permission of the editors of *ZDMG*.

Every translator must choose a means to avoid, as best as possible, his becoming yet another example of the sad, but true Italian dictum "traduttore -- traditore". I chose the path of literal (some would say "excessively literal") translation. Where my translation became insufficiently so, I had the good fortune of being dissuaded from too rigid adherence to the path I had chosen by the good advice of admonishing friends. Professor Kerns himself was the first of these. Over the

long period of time since the translation was first conceived, I have received invaluable criticism from Allan R. Bomhard again and again all the long path. I myself, of course, remain responsible for all final choices of wording. In scientific matters, on the other hand, Professor Rössler has had the final word in all details. He has made many changes in the text, and all such divergences from the original German text are those of Professor Rössler himself.

I have substituted some symbols of my preference for some of Professor Rössler's transcriptions of Semitic. Professor Rössler himself has changed his system of transliterating Egyptian.

A few final words of gratitude must be added. My mother, Inge Arbeitman, spent painstaking weeks editing my original manuscript with me. Gilbert-James Ayala did a superb job in preparing the original manuscript.

INTRODUCTION

§1. In the south of the Mediterranean basin there stretches from the Atlantic Ocean to the Persian Gulf a mighty belt of languages, which are so closely interrelated that the assumption that they have all sprung from a single root is irrefutable. For want of a better term, we call this great language family Semito-Hamitic (using the term which has come into almost general acceptance).

First of all this family is divided formally, on a geographic basis, into an Eastern, Asiatic branch: Semitic; and a Western, African branch: "Hamitic".

§2. Divided as their geography has been the course of research into these two branches. The scholars of the 17th century already had a vague concept, correct in its essentials, concerning the relationship of the Semitic languages known to them, and in 1781 A. L. Schläözer gave the name Semites to this family of nations. This name has been generally accepted since then (cf. Brockelmann 1908:§1).

The Semitic branch, taking into consideration the arguments presented by V. Christian, is to be divided as follows (cf. Brockelmann 1908:§8; Christian 1919:738; Haupt 1889):

1. East or Old Semitic: Akkadian (Assyrian-Babylonian).
2. West or Young Semitic:
 - A. Southwest Semitic:
 - α. Minaean-Sabean, the Mahra languages, Abyssinian (transition group).
 - β. Arabic.
 - B. Northwest Semitic:
 - α. Kanaʿanite.
 - β. Aramaic.

The first Southwest Semitic group stands very close in many respects to the Old Semitic group (thus we label it as a transition group); on the other hand, it displays special agreements with Arabic.

The latest discovered Semitic dialect, the language of the ancient city of Ugarit (Rās Šamrā) in North Syria,² belongs to Northwest Semitic, particularly to Kanaʿanite (cf. Gordon 1940:50, fn. 2, and 88-90).

§3. Significantly later than Semitic, "Hamitic" entered the horizon of Western knowledge. The decipherment of the hieroglyphics and the revelation of the Egyptian Language were required before the path was freed for the recognition of this other branch of the great language family. However, the English Berberologist, W. F. Newman, appears to have grasped the connections already in the 30's of the last century, and as early as 1851 W. H. J. Bleek (1851:59) suspected the unity of the Semito-Hamitic family, his "Semito-Africani". Then in 1880 the Egyptologist R. Lepsius (1880:XVf.), in the introduction to his *Nubische Grammatik*, suggested the name Hamitic for the "North and Northeast African languages", which name they have kept.

But while the concept "Semitic" has all along been closely circumscribed, so that no expert can ever be in doubt as to whether a given

²Before the recent discovery of Eblaite, of course (translator).

dialect is to be reckoned as Semitic, the concept "Hamitic" early received something indefinite and unstable about it -- partly through improper extension to half-Hamitic languages, those merely influenced by Hamitic, or to otherwise in any way "synthetic" African languages, partly through hasty formation of anthropological and ethnological theories. Thus the concept fell temporarily into utter disrepute, much to the detriment of research.

With deliberate limitation and exclusion of all merely "Hamitoid" languages, whose inclusion in the great language family would falsify the overall picture, we shall divide the "Hamitic" branch as follows:

1. West Hamitic: Lybico-Berber (with Canary).
2. East Hamitic:
 - A. Erythraic (so-called "Low Cushitic").
 - B. Agāu (so-called "High Cushitic").
3. Egyptian-Coptic.

Both two first-named groups, but particularly West Hamitic, have striking relationships to East Semitic. Egyptian-Coptic occupies in many respects a special position. The language of the ancient *Blemmyans* belongs to the Erythraic (cf. Zyhlarz 1940) group, that of *Meroe* (apparently) primarily to the Agāu group (cf. Zyhlarz 1930)³, thus both to the East Hamitic. On the other hand, the language of the ancient Numidian inscriptions is West Hamitic (cf. Rössler 1942).

§4. In the division presented here, the individual groups of the Semitic, as those of the Hamitic branch, stand as such (approximately) equal to one another, of like rank and importance.

§5. Let us say here a few words about the "Hamitoid" languages,

³But new investigations have shown that Meroitic is very different from Agāu (cf. "Meroitica" I, Berlin 1973; III, Berlin 1979).

which are ignored in this description and lack various integral characteristics of the "full Hamitic" languages. We are dealing in this case with: (1) the Hottentot languages, which stand in a distant, yet distinct, historical connection with East Hamitic; (2) the so-called Nilo-Hamitic and Nilotic languages; and (3) the Chado-Hamitic languages, of which the best studied, Hausa, was once apostrophized by E. Zyhlarz (1932:27, fn. 3; cf. also Lukas 1937) as "Negro-Hamitic".

Concerning the Chado-Hamitic languages, J. Lukas, their most meritorious researcher and greatest authority, expresses himself as follows:

Let it be emphasized that we, to borrow an expression from E. Zyhlarz, do not view these languages as "genuine" Hamitic languages, but rather as the result of a mixing of Hamitic linguistic material with older linguistic materials, which were not Hamitic, yet, as such, mixtures whose carrier linguistic stratum is Hamitic.... I do not hesitate to say that the Chado-Hamitic group displays a stronger Hamitic print than the Nilo-Hamitic, in which one could, to judge by the criteria, much rather perceive a Hamitic language spirit in an oft estranged raiment. (Lukas 1936:181.)

On the whole, the Chado-Hamites appear (as may be said here with all reserve), despite unmistakable influence on the part of the West Hamites, to have originally stood nearer to the East Hamites.⁴

§6. The complete unity of the Semito-Hamitic language family in its here circumscribed limits shall now be proved through the comparison of the structure and inflexion of the verb.

I. THE VERBAL STEMS IN SEMITO-HAMITIC

§7. "Already in Proto-Semitic, most word forms displayed quite

⁴Chadistics has, since this article first appeared, developed into a major new branch of Semito-Hamitic. J. Lukas and H. Jungraithmayr are the most important representatives of this discipline in Germany.

regularly a solid foundation of three consonants". This statement of C. Brockelmann (1908:§101b) is valid exactly in the same sense and extent for Semito-Hamitic as a whole. The widespread and popular concept of "Hamitic roots as being still monosyllabic"⁵ -- in contrast to those of Semitic -- is false, as E. Zyhlarz has emphasized:

As though it had not long been known from the historically so surveyable Old Egyptian, how after several thousand years there can be left in Coptic, from old triliteral verbal stems, only one syllable or even only one functioning consonant, if the root contained one or more weaker radicals... (Zyhlarz 1932:42, fn. 1.)

The roots with "weaker radicals" are also, therefore, common Semito-Hamitic; likewise, for that matter, are the so-called "mediae geminatae" and those containing four and more radicals.

§8. To the common property belong also the "stem modifications" or "direction forms", i.e., the alterations of the simple root -- the internal, produced through consonant doubling or vowel lengthening, and the external, produced through supplementary consonants -- for the expression of the various "Aktionsarten"; thus, those formations which are called in Hebrew grammar *Piŕel*, *Poŕel*, etc., in Arabic 2nd, 3rd form etc.

§9. For a comparative consideration of these formations that goes beyond the individual languages, we need a terminology suitable in like manner to all the individual languages, a structural arrangement common to all. As early as 1893 F. Hommel drew up such a terminology in his *Süd-Arabische Chrestomathie*:

⁵It is put forth, with relation to East Hamitic, even by L. Reinisch (1894.III:§197)!

If we label the simple stem which displays neither internal nor external alterations 0 (zero), then it is most practical to express the internal...alterations by the Arabic numerals 2 and 3 placed after, so that the intensive stem *qabbala* would be expressed 0/2, the goal stem *qābala* by 0/3 (vs. the simple stem: 0/1). The stems that come into being through external augmentation I label...by the same consonants by which the augmentation comes into being; thus, e.g., ...*saqbalā* by *s/1*...further the *Niḡṣāl* or so-called 7th Arabic form by *n/1*, the *Ifteṣāl* or 8th Arabic form by *t/1*, the 10th Arabic form...by *st/1*.⁶ Hence, for the rest it automatically follows that the 5th and 6th Arabic forms, where a combination of the *t*-stem with the intensive and goal stems respectively occurs, receive the abbreviations *t/2* and *t/3* (*taqabbala* and *taqābala*). This terminology...commends itself by being applicable to all Semitic languages and furthermore is superior to all other systems...thanks to its inner consistency. In accordance with this, e.g., Babylonian *uktaššid* is *t/2* (in contrast with *iktašid*, *t/1*), *uṣmalli*, *s/2* (in contrast with *uṣamli*, *s/1*), *uṣtaqrib*, *st/1*, *uṣtaqarrib*, *st/2*. (Hommel 1893:§21.)

§10. This terminology, which can be applied just as excellently to the languages of the "Hamitic" branch as to those of the Semitic, has, oddly enough, found but small emulation. It was applied in the glossary of their *Keilschrifttexte zum Gebrauch bei Vorlesungen* by Abel and Winckler (1890:63-87) and in "Das Verbum der Tigrsprache" (Littmann 1898 and 1899), the *Ge'ez-Studien I, II, III* (Littmann 1917 and 1918), and an unpublished *Äthiopische Grammatik* by E. Littmann, which has kindly been put at the disposal of the author. Hommel's terminology, which hereby may be commended anew to the attention of the scholarly world, has been taken as the basis for the present investigation.

II. SUFFIX AND PREFIX CONJUGATION IN SEMITO-HAMITIC

§11. There were already two different modes of conjugation in the

⁶On grounds of linguistic history, we prefer "*t:s*" instead of "*st*"; likewise "*tn:n*" instead of "*ntn*", etc.

proto-language: a suffix conjugation, which exclusively suffixed pronominal elements, and a prefix conjugation, which essentially prefixed pronominal elements.

We need to make the attempt to determine the original value of both these conjugation types. The suffix conjugation indicated states in its original use; the prefix conjugation acts or events. Thus, the suffix conjugation was "idyllic"; the prefix conjugation "dramatic". In accordance with this, the two types were distributed originally between the two different categories of verbs: the suffix conjugation was the mode of inflexion for verbs of state or quality (e.g., "be big"); the prefix conjugation for verbs of action (e.g., "strike"). These two types came to be associated suppletively with each other. If a verb of quality was transferred to the "dramatic" prefix conjugation, it naturally assumed a fientive meaning ("become big"). To this the suffix conjugation stands in the relationship of a factive ("to have become big"). On the other hand, a verb of action could be transferred to the "idyllic" suffix conjugation, that is, by way of its participles ("be striking", "be striker", "be struck"). Afterwards, the verbs of action could add a suffix form (with perfect meaning) formed from the perfect participle by analogy with the verbs of quality.

§12. It is clear that, under these circumstances, the suffix conjugation stood particularly close to the area of the nominal formations. One can consider it as a "conjugated noun or participle". Hence, also its appellation "pseudo-participle" in Egyptian grammar. Following Coptology or Berberology, one could also label it as "qualitative". However, we prefer the label permansive, which is usual in Assyriology and preserves the widest area of manœuvre. It must be kept in mind that this permansive, in its original use, was not an expression of a sphere of time in the sense of our grammar. That out of it there has developed the well-known "perfect" of the Young Semitic languages, must be clarified by linguistic psychology and linguistic history. (The permansive appeared originally in two sorts of shapes: a simple one to

express a simple quality, and one with doubled middle consonant to express an "inherent" quality.)

§13. The prefix conjugation, in opposition to this permansive, is the genuine verbal formation. Closely related to the former are the imperative and the infinitive. It is also not an expression of a sphere of time in the sense of our grammar. Later there developed out of it the "imperfect" of the Young Semitic languages. It, too, originally appeared in two sorts of patterns: a simple one for the expression of the simple occurrence of an act or event, here -- for want of a more suitable name -- called "narrative"; and one with doubled middle consonant for expression of the continuance or repetition of an act or event, here called for short "durative". Almost between both, yet nearer to the first-named, stood the "jussive".

§14. Thus, the Proto-Semito-Hamitic scheme -- for 0/1 -- presents itself as follows:

I. Suffix Conjugation (state)		II. Prefix Conjugation (action)	
Permansive (A)	Permansive (B)	Durative (A)	Narrative and Jussive (B)
<i>kattala</i>	<i>katala</i>	<i>yakattal</i>	<i>yaktal</i>
<i>kattila</i>	<i>katila</i>	<i>yakattil</i>	<i>yaktil</i>
<i>kattula</i>	<i>katula</i>	<i>yakattul</i>	<i>yaktul</i>
("inherent characteristic")			

For the presentation of common formulas we employ the three consonants *k t l* in reminiscence of the paradigm Arabic قتل /qatala/, Hebrew טל /qatıl/; however, we neglect the diacritic points.⁷ The three consonants shall merely have the value of a fictive root and

⁷The diacritic points referred to *ḳ, ṭ, ḷ* (translator).

shall not represent the concrete Semitic root meaning "to kill", which, as a matter of fact, is not attested in each language dealt with here. Thus *k* simply denotes the first, *t* the second, *l* the third root consonant or radical.

§15. The old meaning of the suffix conjugation has been approximately maintained in the "permansive" or "stative" of Akkadian: *ṣeḫer* and *ṣeḫher* "he is, was small", *lamid* "he is, was knowing", *šakin* "he is, was placed"⁸; in the "factum" of the "verbes de qualité" of Kabylic (Berber): *ḥnin* "he is sympathetic", *erzag* "he is bitter"; in Almkvist's "verbum substantivum" of Beḍaue (Erythraic): *naḥiru* "he is sweet"; as well as in the Egyptian "pseudo-participle": *nfrī/w* "he is good" (= "qualitative" of Coptic: *nofer*). In the Young Semitic languages the meaning of the suffix conjugation has gone over to the well-known "perfect" of Arabic, etc.; in the remaining Berber dialects and in the East Hamitic languages, the suffix conjugation has merged into the prefix conjugation.

§16. The old meaning of the conjugation *yakattal* has been approximately maintained in the "present" of Akkadian: *ilammad* "he learns", *išakkan* "he places, puts"; in the "forme d'habitude" of Berber: *ilammed* "he learns (generally and customarily)"; in the "present" of Beḍaue *lammîd* < **yelammîd* "he learns"; in the "present indicative" of Mehri: *yikôteb* < **yekatteb* "he writes"; and in the "indicative" of Ethiopic: *yeqattel* "he kills". Concerning the other Young Semitic languages, see forthwith.

The old meaning of the conjugation *yaktul* has been approximately maintained in the "preterite" of Akkadian: *ilmad* "he learned", *iškun* "he placed, put" and in the "precative" of Akkadian; in the "fiens-aor-

⁸The German *ist*, *war* *gelegen* expresses passive state (vs. action) unambiguously, which the English does not (translator).

ist" of Berber: *ilmed*; and in the "preterite" of Beḍauye: *yelmid* "he learned"; as well as in the "jussive" of Mehri, Ethiopic, Hebrew, Old Aramaic and Arabic.

In Young Semitic, the conjugation *yakattal* was finally assimilated to the jussive *yaktul* after the old "narrative" of the prefix conjugation was replaced by a new "narrative" from the suffix conjugation, the Young Semitic perfect. (The Young Semitic prefix conjugation is by meaning almost a continuation of the type *yakattal*; the corresponding form, however, is more or less maintained only in Mehri and Ethiopic; in the remaining Young Semitic languages it is completely displaced by the analogy of the jussive. One can reconstruct the process as follows: Stage 1: The old narrative was replaced by the new narrative from the suffix conjugation by analogy with the verbs of quality [Young Semitic perfect]; Mehri and Ethiopic have remained at this step. Stage 2: The old durative is fully assimilated to the jussive-consecutive; this is the step upon which Arabic stands. At any rate, the Young Semitic "indicative of the imperfect" is consistently closely connected with the old durative in meaning.)

Egyptian has altered the prefix conjugation by reformation past recognition. (Chadic is on a very similar path of development.)

§17. It is most noteworthy that the starts made toward the recognition of these connections, once they had been presented, could fall so totally back into oblivion! In 1894 L. Reinisch wrote in his monograph on Beḍauye:

This formation of the present-future in Beḍauye (that is to say, the formation **yelammîd*! [Otto Rössler]) does not stand in complete isolation, but finds its counterpart in the Hamitic Berber languages; cf., e.g., (Ta-)Mašiq: *ilkem* "secutus est", but *ilak-kem* (sic!) "sequitur".... In the Ethiopic dialects Geʿez, Amharic, Tigré and Tigray the imperfect is *yenagger*...which is closely associated with the Beḍauye present-future.... Most striking, however, are the parallel developments in Beḍauye and Assyrian, in the latter of which, besides the so-called permansive, ... formally similar to the perfect of the other Semitic languages,

there have also been developed a present and a preterite, both of which tempora coincide with the like tenses of Beḍauye in respect of both form and content; cf., e.g., Assyrian...present *ipa(q)qid* (= Beḍ. pres. **yekantîb*) and perfect *ipqid* (= Beḍ. perf. *yektîb*).... (Reinisch 1894.III:§226-27).

§18. These thoughtworthy sentences of L. Reinisch have not met with their well-deserved response in the subsequent literature. On the part of Semiticists, there has been until now great restraint in the employment of "Hamitic" linguistic phenomena for clarification of Semitic phenomena. But also on the part of Hamiticists, definite prejudices have largely obstructed the prospects for fruitful Semitic-Hamitic comparisons. L. Reinisch (1894.IV:§306) himself, by wanting to explain the Beḍauye forms *andîr* "I kill", *akantîb* "I write" as *aʔan* + *dîr* "I am killer", *aʔan* + *katîb* "I am writer" to a certain extent attempted to understand them as a development within Beḍauye itself, and thereby he subsequently encumbered the just cited auspicious comparison. But this attempt, so fascinating on first appearance, to explain the formation *andîr*, etc., in fact turns out upon closer inspection to be highly problematic, even considered purely from the standpoint of Beḍauye.

Chance had it that the Berber "forme d'habitude" also vanished from the view of comparative research due to the preference of Berber grammars to deal with it under direction forms or stem modifications (although it is a "tempus" or "modus" in the sense of Semitic grammar, i.e., a form which can be made from all stem modifications). Thus it appeared to those not directly concerned as a sort of *Piſeſel* -- a delusion which even many an expert succumbed to (cf. Zyhlarz 1932:38; Bequiot 1942:§41, fn.). Therefore, the Berber "aorist" and "prêtêrit" (the two forms which Stumme calls "fiens" and "factum") were compared with the Akkadian "present" and "preterite". This juxtaposition is, however, incorrect: neither is the Berber "factum-prêtêrit" identical with the Akkadian "preterite", nor the Berber "fiens-aorist" with the Akkadian "present"; occasional similarities (in quite definite special cases) rest upon chance.

§19. Research was also led astray by the juxtaposition -- again seeming very reasonable if viewed only externally -- of the inflexion of the so-called "denominative" or "weak" verbs of Beḍauye with the Semitic suffix conjugation (cf. Meinhof 1912:156; but against this Zyhlarz 1932:183, fn. 1). That is to say that Beḍauye conjugates its "primitive" or actual verbs, the so-called "strong" verbs, directly according to the prefix conjugation, its "denominative", "weak" verbs indirectly by means of a postposited auxiliary verb which likewise is conjugated according to the prefix conjugation. In the latter case, the forms of this auxiliary verb can be so very slurred that they become similar to the pronominal endings of the suffix conjugation. V. Christian believed that, from this development, he could actually comprehend the emergence of the suffix conjugation. According to him (Christian 1919:734):

The perfect of the strong (= primitive) verb (of Beḍauye) has an unmistakable relationship to the Semitic imperfect (prefix conjugation) as likewise the perfect of the weak (= denominative) verb (of Beḍauye) has to the Semitic perfect (suffix conjugation) ...*yaktul* and *katala* (are)...two types to be kept apart, (both) the remains of an originally fuller conjugation, of which each knew a present and a perfect, and (after a part had died out from each) grew together suppletively.

This last thesis still maintains its validity in a certain sense even today, thirty years after it was drawn up, and comes quite close to the opinion which I subscribe to.⁹ No longer defensible is the juxtaposition of the East Hamitic indirect conjugation with the Semitic suffix conjugation. The East Hamitic indirect conjugation presents a (relatively) young, pronounced special development. It is distinguished from the genuine suffix conjugation (in spite of the often really amaz-

⁹In V. Christian's view, there is already in any case an implicit acknowledgment that the suffix conjugation belongs more closely with the noun.

ing similarity) in one essential point: the shibboleth is the 1st singular, which, in the true suffix conjugation, always ends in *-k* (Arabic, Kanašanite, Aramaic in *-t*), but in the East Hamitic pseudo-suffix conjugation, this *-k* never turns up.

§20. Christian's conjecture that the so-called "invariant" verbs of Berber, i.e., those which do not ablaut, had earlier possessed pure suffix conjugation (Christian 1919:735-6), cannot be supported even from (within) Berber itself. It is exactly the most typical "invariant" verbs of Berber, those with the vowel reduced to *e*, which are the purest representatives of the prefix conjugation.

For all that, Berber at an earlier stage generally possessed the suffix conjugation too; even today, Kabylie possesses an imposing vestigial form, unambiguously the genuine, old, common Semito-Hamitic suffix conjugation, which has nothing to do with the East Hamitic pseudo-suffix conjugation. But both "invariant" and "alternating" verbs partake of the suffix conjugation in Berber, and under its present condition, apparently more the "alternating" ones than the "invariant" ones. This Berber suffix conjugation is the conjugation of the "verbes de qualité".

§21. All these combinations had to be briefly touched upon here, in order, by reviewing them, to clear the path for new findings.

In the following sections, we shall now consider comparatively the individual languages of the Semitic as well as of the Hamitic branch of the great language family successively.

III. AKKADIAN¹⁰

¹⁰ §§22-35 have been revised in light of: W. von Soden, *Grundriss der Akkadischen Grammatik*, Rome (1952). Cf. W. von Soden in *Bibliotheca Orientalis* XIV.204f. (1957); Ungnad 1926. (On Rössler's change of the 4-rads. to 0/1 here and elsewhere, cf. *Grundriss* §110 [translator].)

A. STEM MODIFICATIONS

§22. Akkadian possesses the following stem modifications, which will be listed here in the form of the imperative (sg. m.):

0/1	base stem	<i>kušud</i> "conquer"
		<i>milik</i> "counsel"
		<i>maḥaṣ</i> "beat"
		<i>rugum</i> "cry"
		<i>qirib</i> "approach"
		<i>rikab</i> "ride"
	4 - rad.	<i>na-balkit</i> "pass over"
t/1	refl. base stem	<i>ritgum</i>
		<i>mitlik</i>
		<i>mithaṣ</i>
0/2	intensive stem	<i>kuššid</i> (Assyr. <i>kaššid</i>)
t/2	(refl.) pass. intensive stem	<i>kutaššid</i>
s/1	causative stem	<i>šukšid</i> (Assyr. <i>šakšid</i>)
	4 - rad.	<i>šubalkit</i>
t:s/1	(refl.) pass. caus. stem	<i>šutakšid</i>
s/2	caus. intens. stem	<i>šukaššid</i>
n/1	passive stem	<i>nakšid</i>

Besides the (reflexive) *t*-stems, there also occur (non-reflexive) iterative *t n* -stems. In 0/1 and t/1, *a* vocalism does not have neutral-intransitive meaning, as, e.g., it has in the Hebrew and Arabic prefix conjugations. The derived stems have *i* vocalism.

B. THE SUFFIX CONJUGATION

§23. The suffix conjugation, as already mentioned, is by its very nature a "conjugable noun", a "pseudo-participle". It is a highly ar-

chaic feature of Akkadian that, as a matter of principle, it can conjugate according to this conjugation any qualifying noun, if need be. Thus, from *šarraqu* "thief" are formed: *šarraq* "he is a thief", *šarraqat* "she is a thief" (fem.), *šarraqāta* "thou art a thief", *šarraqāti* "thou art a thief" (fem.), *šarraqāku* "I am a thief" (m/f.); from *bēlum* "lord": *bēl* "he is lord", *bēlet* "she is mistress", *bēlēta* "thou art lord", *bēlēti* "thou art mistress", *bēlēku* "I am lord, mistress", etc. Tense character, in the sense of Indo-European grammar, is not present in this formation-type; thus, it can mean "he was..." or "he will be ..." just as well.

The base in each case is a noun that can lie totally outside the narrow realm of verbal noun formation; there certainly did usually also exist a verb from the same root; thus, from the same roots as the mentioned examples we have: *širiq* "steal" and *bēl* "rule". However, it is totally unnecessary that a verb which forms the suffix conjugation 0/1 must also form the prefix conjugation 0/1. On the contrary, there is a large number of verbs which in 0/1 have certainly developed the suffix conjugation, but not at all (or only weakly) the tenses of the prefix conjugation; these are the "verbs of quality" or the neuters, as *ṣeḥḫerum* "to be small", *qarādum* "to be heroic", *labāšum* "to be clad", and some others.

With this suffix conjugation, we are still in an area where the boundary between verb and noun is unclear. This alone indicates that we are dealing with a highly archaic formation.

§24. Now, this formation can be specifically effected on any verbal root by means of the participles of which Akkadian has two from every stem modification, one of rest and completion (which usually even in the case of transitive verbs or stems is mostly intransitive-passive): *kaš(i)dum*, *kaš(u)dum*, and one of action and non-completion: *kāšidum*; if occasion arises, we have, in addition, one of inherent quality, identical with the participle of continuing action: *kaššadum*. All the forms cited here are to be understood for 0/1; the last named participle

form is, as a matter of fact, formed only from 0/1.

The "conjugated participle" *kaš(i)ḫum*, *kaš(u)ḫum*, is by far the most common, and the usual form of the Akkadian permansive. The latter's meaning is usually defined to the effect that it describes the state existing after the accomplishment of the action expressed by the verb, or the continuance of the condition resulting from this action (cf. Ungnad 1926:§30.d.α). The inflexion is as follows:

sg. 3 m.	<i>labiṣ</i>	"he wore, had worn"	<i>taruṣ</i>	"he is, was stretched out"
3 f.	<i>labṣat</i>		<i>tarṣat</i>	
2 m.	<i>labṣāta</i>		etc.	
2 f.	<i>labṣāti</i>			
1 c.	<i>labṣāku</i>			
pl. 3 m.	<i>labṣū</i>			
3 f.	<i>labṣā</i>			
2 m.	<i>labṣātunū</i>			
2 f.	<i>labṣātina</i>			
1 c.	<i>labṣānu/i</i>			

§25. The similarity to the Arabic, etc., "perfect" of the forms *katila* and *katula* is obvious (cf. Nöldeke 1904). An Akkadian active *a* permansive (a correspondence to the Arabic form *katala*) is wanting. On the other hand, it must be borne in mind that the Akkadian *i* permansives of active verbs sometimes have active meaning also, and thus, meaningwise, are close to the Arabic formation *katala*. Usually, however, the Akkadian permansive *kašid*, *kašud* is intransitive, exactly like the corresponding Arabic forms *katila*, *katula* (cf. Brockelmann 1941:§22). We observe, by way of example, the good correspondence Akkadian *taruṣ* "he is, was stretched out" = Arabic *taruṣa* "he was aligned straight". If the meaning of the Akkadian *kašid* from an active verb is just about passive, then the best Arabic correspondence is the "internal passive" *kutila*, which then, likewise, would have had to develop upon a basis

katila.

The question now arises whether Akkadian perhaps, at some earlier time, knew an active *a* permansive. This seems to us totally unlikely -- simply because it is not possible to point out any active adjectival or participial *katal* that could have served as a base. (On the other hand, adjectives [of quality] of the form *katal*, which are conjugated according to the suffix conjugation, are very usual in Akkadian.) Thus, *a* as the characteristic vowel of the active suffix conjugation must be an innovation of the Young Semitic languages.

As for the rest, the Akkadian inflexion is distinguished from that of the Arabic, etc., perfect only by the so-called "joining vowel" between base and pronominal elements. Here, too, Akkadian appears to have preserved an archaism: Akkad. *labšāta* from **labisāta* appears older than Arabic *labista* from **labisata*. The "joining vowel" was (secondarily) lengthened in Akkadian (cf. Hebr. *sabbōta*, *ḥāsibbōta*) by analogy with the 1 sg. where, in view of *anāku* "I", it must have originally been long.

§26. With due reserve, mention must also be made of the young alternate forms: *labšāta* : *labšāka*, *labšātunū* : *labšākunū* for the 2 m. The *k* forms could be viewed as a differentiating of the masculine from the feminine, which always shows the *t*. (A masculine ending *-k* as the counterpart to the feminine ending *-t* is met with in Somali.)

§27. In conclusion, one can say that the Akkadian permansive, which is found to be a true verb form in spite of its very intimate relations to the noun (inasmuch as it even forms modes [subjunctive, energetic]), cannot be a specifically Akkadian formation. It is inherited from the proto-language and is in its origins related to the Young Semitic perfect.

C. THE PREFIX CONJUGATION

§28. The Akkadian prefix conjugation differentiates "present" (A) on the one hand and "preterite" (B) and "precative" (C) on the other. The precative is externally differentiated from the preterite only by the preposited precative particle *l(ū)-*. (N.B.: The so-called *t-perfect* will however be left out here.)

0/1 Paradigm: *šukun* "set, lay"

A	B (C)	(Arab. jussive for comparison)
sg. 3 m. <i>išakkan</i> "he sets, lays"	<i>iškun</i> "he set, laid (may he lay)"	<i>yaskun</i> "let him lay away" (in the sense of "let him rest")
3 f. <i>tašakkan</i>	<i>taškun</i>	<i>taskun</i>
2 m. <i>tašakkan</i>	<i>taškun</i>	<i>taskun</i>
2 f. <i>tašakkanī</i>	<i>taškunī</i>	<i>taskunī</i>
1 c. <i>ašakkan</i>	<i>aškun</i>	? <i>askun</i>
pl. 3 m. <i>išakkanū</i>	<i>iškunū</i>	<i>yaskunū</i>
3 f. <i>išakkanā</i>	<i>iškunā</i>	<i>yaskun/na</i>
[2 m. <i>tašakkanū</i>]	[<i>taškunū</i>]	<i>taskunū</i>
2 f. <i>tašakkanā</i>	<i>taškunā</i>	<i>taskun/na</i>
1 c. <i>nišakkan</i>	<i>niškun</i>	<i>naskun</i>

The types *ipaqqid* "he charges" : *ipqid* "he charged"; *imaqqut* "he falls" : *imqut* "he fell"; *išabbat* "he seizes" : *išbat* "he seized" have like vocalism in "present" and "preterite".

It appears that the type *išakkan* : *iškun* was in origin active; the types with like vocalism neutral. Yet the relationship is disturbed inasmuch as active presents also partially have *i, u*, perhaps by assimilation to the preterites that belong to them, after the pattern of those verbs whose like vocalism throughout was their due from time immemorial.

As mentioned, *a* vocalism is not here a sign of neutral-intransitive meaning. In the "present", it is evidently even a sign of the active, thus as in the Young Semitic perfect.

The Young Semitic imperfect agrees more closely with the Akkadian "present" as far as the meaning goes, as far as the form with the "preterite" and "precatative". In the jussive, there is full agreement of meaning and form in all languages.

§29. The following is a table of the base forms (3 m. sg.) of the Akkadian suffix and prefix conjugations for all the stem modifications:

	Suffix Conjugation	Prefix Conjugation	
	B (A)	A	B = C
0/1	<i>kašid, taruṣ</i> (<i>šarraaq</i>)	<i>ikaššād</i> <i>ipaqqid</i> <i>imaqut</i> <i>išabbat</i>	<i>ikšud</i> <i>ipqid</i> <i>imqut</i> <i>išbat</i>
4 rad.:	<i>na-balkut</i> <i>na-paršud</i>	<i>ibbalkat</i> <i>ipparaššid</i>	<i>ibbalkit</i> <i>ipparšid</i>
t/1	<i>kitšud</i>	<i>iktaššād</i> <i>ipteqqid</i> <i>imtaqut</i>	<i>iktašad</i> <i>ipteqid</i> <i>imtaqut</i>
0/2	<i>kuššud</i>	<i>ukaššād</i>	<i>ukaššid</i> (<i>ukêšid</i> ¹¹)
t/2	<i>kutaššud</i>	<i>uktaššād</i>	<i>uktaššid</i> (<i>uktêšid</i> ¹¹)
s/1	<i>šukšud</i>	<i>ušakšād</i>	<i>ušakšid</i> (<i>ušekšid</i>)
4 rad.:	<i>šubalkut</i>	<i>ušbalkat</i> <i>ušbalakkat</i>	<i>ušbalkit</i>
t:s/1	<i>šutakšud</i>	<i>uštakšād</i>	<i>uštakšid</i> (<i>uštekešid</i>)
s/2	<i>šukaššud</i>	<i>uškaššād</i>	<i>uškaššid</i>

¹¹These forms are interpreted (probably correctly) by Christian (1919:731) as 0/3, t/3.

<i>t:s/2</i>	<i>šutakaššud</i>	<i>uštakaššad</i>	(<i>uštakaššid</i> ?)
<i>n/1</i>	<i>nakšud</i>	<i>ikkaššad</i>	<i>ikkašid</i>

Further, mention should be made of the "durative presents" *tn/1* *iktanaššad* and *ittanablakkat*.

The suffix conjugation of all stems, with the exception of the greater part of the *0/1* stems, has *u* vocalism in the last syllable. Connected with this is the deviation of meaning from that of the perfect of Young Semitic.

§30. *0/1*, *t/1*, *n/1* (*tn/1*, *tn:n/1*) have *a* vocalism in the prefix: *i-* from **ya-*; all other stems have *u* vocalism in the prefix: *u-* from **yu-*.

0/1 often has, and *n/1* always has differing vocalism in the final syllable in present and preterite (present vowel *a*). *t/1* always has similar final syllable vocalism in present and preterite, often invariable *a*. *n/1* and *t/1*, in addition, characterize the present by doubling the penultimate consonant on the pattern of *0/1*. *0/1*, *t/1* and *n/1*, the stems with *a* in the prefix, thus offer in the formation of their forms a relatively unitary picture.

The stems with *u* in the prefix prove yet more unitary. They differentiate present and preterite solely by the characteristic vowel alternation *a* : *i* in the final syllable. The 4-radical roots alone show a preference to follow the example of *0/1* here by frequently doubling their penultimate consonant in the present.

Thus the means for distinguishing the two kinds of the prefix conjugation in Akkadian are: (1) doubling (or nasalization, see forthwith) of the penultimate consonant in the present; (2) *a* vocalism in the final syllable in the present; (3) a combination of both.

§31. The present formation of *0/1* in those roots which have a nasal as first radical is interesting. They often resolve the characteristic consonant doubling of the present by means of a nasal. Thus,

the preference is to form from *mugur* "grant": *imangur* "he grants"; from *mudud* "measure": *imandad* "he measures"; from ⁽ⁿ⁾*ibi* "call": *in-ambi* "he calls"; from ⁽ⁿ⁾*iḏin* "give": *inamḏin* "he gives"; from ⁽ⁿ⁾*uzur* "curse": *inanṣar* "he curses"; from ⁽ⁿ⁾*uṣur* "protect": *inanṣur*, *inam-ṣar* "he keeps watch". V. Christian (1919:735) considers this nasalization, in view of the corresponding phenomenon in Beḏaue (which is yet to be discussed), more original than the consonant doubling.

§32. Now for the meanings of the two prefix conjugations: the present, according to Ungnad (1926:§30.b), stands for the not yet completed momentary action, both in the sense of our future as well as in an iterative sense (certainly without regard to the time sphere!). The latter case appears particularly instructive and leads more deeply towards an understanding of the essence of the form. On the "hexagonal prism" of Sennacherib, VI 23-4, we read: *munnarib-ṣunu ṣa ana napṣāti uṣū, aṣar ikašṣadū urassapū ina kakki* "their fugitives, who had escaped, wherever they overtook them, they brought them low with the weapon" (cf. Delitzsch 1900:67) (the context is a historical report whose usual verbal form is the preterite!). Particularly striking is the following passage from the so-called "Rassam Cylinder" of Sardanapal, II 111-12: *rakbu-ṣu, ṣa ana ṣaṭāl ṣulme-ya kayyān iṣtanappara, uṣarṣā baṭilta* "his ambassador, whom he was continually wont to commission to pay homage to me, he recalled". (One takes notice of the preference for the *tn*-present in durative-habitative meaning!).

§33. From the cited passages, it should be sufficiently obvious that the Akkadian so-called present is a form which also expresses the repetition, continuance or habitualness of an act in the past. Thus it is no "present" in the sense of our (German [translator]) grammar, although its meaning -- by way of duration and continuance -- approaches that of our present and future. Its other use, as a form of potentiality, volition, requirement, permission, can also be thus understood: here, too, it is always a matter of presentation of the lasting or the

taking effect on a longer term basis.

The negative imperative is also expressed by means of the present: *lā tapallah* "do not fear", *lā tabakki* "do not weep". That particularly in prohibition the durative form is used is again psychologically understandable: while the (positive) command primarily has momentary character and simply requires the performance of an act, and then becomes invalid, the prohibition is valid for both the present and the future, and thus has much more the character of continuance.

Related to the form *ikaššad* is doubtless the nominal form *kattal*, *kattāl* which we can conceive as the participle belonging to this form, and according to which, designations of professions are formed in Akkadian, Arabic, Kanaʿanite and Aramaic; thus, they are named after a habitual, continuing activity, as Akkadian *dayyanum* "judge", *kaššapum* "magician", *nangarum* "carpenter", *šarraquum* "thief", etc. We may, furthermore, note in the next to the last named case the same nasal resolution of the double consonant under like conditions as in the verbal forms from roots having a nasal as first radical.

§34. The so-called preterite is defined by Ungnad as the form of the completed momentary action; on this it should be observed that the opposition to the present is likely to lie less in the completing than in the non-duration. The preterite is a descriptive "narrative" form pure and simple; it indicates the non-continuing, non-recurrent, simple action: the taking place of an event. That it cannot primarily have to do with the concept of "praeter-itus" is obvious: (1) from its relationship to the imperative; (2) from its relationship to the precative with preposited *l(u)-*, negative *ē-*; (3) from its relationship to the jussive-cohortative with preposited *i-*. All these factors can be combined under the concept of the pure, bare action.

§35. With this, we complete our survey of Akkadian, the oldest Semitic language known to us. It offers, in many points, another picture than, by way of example, Arabic, and actually, as you might already

have guessed, one more archaic. What Akkadian brought to light concerning old Semitic characteristics, other related languages will confirm and underline.

IV. BERBER¹²

§36. We should like to consider next the Berber language, split into many dialects and spread over all North Africa (and formerly also in the Canary Islands). H. Stumme (1895:28, fn. d), the late top German expert on Berber, also well established as a Semiticist, has expressed himself concerning Berber to the effect that, in his view, it is "much more closely related to Semitic than is Egyptian". This statement of a qualified expert has extraordinary weight, as Egyptian is the one Hamitic language with so fairly generally recognized rather close relationships to Semitic.¹³ In what follows we shall see that Berber has in fact preserved many archaic characteristics that let it stand right along side of Akkadian in many respects. In respect of syntax, it has preserved the "Semitic" character to an astounding degree, in glaring opposition to most East Hamitic languages.¹⁴

§37. In 1840 there appeared in the *Moniteur Algérien* an "Essai sur la langue des Beni Mzabs" by Samuda, a small treatise on the Mzabitic Berber dialect, which was treasured by the old master of Berberology, R. Basset, as a pioneer achievement and was republished by him in 1893 in his *Etude sur la Zenatia du Mzab, de Ouargla et de l'Oued-Rir*.

¹²Cf. Basset 1929, Basset and Crouzet 1937, Beguinot 1942, Hanoteau 1860, Laoust 1932, Rössler 1942, Samuda 1840, Stumme 1895 and 1899.

¹³See now Rössler's "Das Ägyptische als semitische Sprache" in *Christentum am Roten Meer*, vol. 1, 1971, pp. 263-326, Berlin (translator).

¹⁴The reader is advised to consult Rössler's "Der semitische Charakter der libyschen Sprache" in *ZA* 50.121-50 (1952) as well as his "Akkadisches und libysches Verbum in *Or* 20.101-07 and 366-73 (1951) (translator).

In his treatise, a table of verbal forms is to be found which we can place here in excerpts and modern transcription (cf. R. Basset 1893: 244-53; Samuda 1840).

		Verbes			
		Impé- ratif	Passé (= Pré- térît = Fak- tum B)	Futur (= Aorist = Fiens C)	Présent (= Forme d'habitu- de = Ha- bitativ A)
1. "ajouter"	<i>arni</i>	<i>yarni</i>	<i>ad(i)-yarni</i>	<i>yerenni</i>	
2. "aller"	<i>ezwa</i>	<i>yezwa</i>	<i>ad-izwa</i>	<i>yezigga</i>	(-gg- = *-ww-)
3. "apporter"	<i>awi</i>	<i>yiwi</i>	<i>ad-iwi</i>	<i>yetawi</i>	
4. "apprendre"	<i>elmed</i>	<i>yelmed</i>	<i>ad-ilmed</i>	<i>yelimmed</i>	
5. "couper"	<i>enkaḏ</i>	<i>yenkaḏ</i>	<i>ad-inkaḏ</i>	<i>yenekkaḏ</i>	
6. "descendre"	<i>ahwa</i>	<i>yahwa</i>	<i>ad-ihwa</i>	<i>yehigga</i>	(-gg- = *-ww-)
7. "donner"	<i>uṣ</i>	<i>yuṣu</i>	<i>ad(i)-yuṣ</i>	<i>yetuṣ</i>	
8. "dormir"	<i>aṭṭas</i>	<i>yaṭṭas</i>	<i>ad(i)-yaṭṭas</i>	<i>yetatṭas</i>	
9. "ouvrir"	<i>arzem</i>	<i>yarzem</i>	<i>ad-irzem</i>	<i>yerezzem</i>	
10. "passer"	<i>egḏaṯ</i>	<i>yegḏaṯ</i>	<i>ad-igḏaṯ</i>	<i>yegidḏaṯ</i>	(from Arabic)
11. "prendre"	<i>aġ</i>	<i>yuġu</i>	<i>ad(i)-yaġ</i>	<i>yetaġ</i>	
12. "vaincre"	<i>arna</i>	<i>yarna</i>	<i>ad(i)-yarna</i>	<i>yerenna</i>	
13. "voir"	<i>ergeb</i>	<i>yergeb</i>	<i>ad-irgeb</i>	<i>yereggab</i>	(from Arabic)

§38. Such a scheme will appear familiar to every Assyriologist's eye. The exact correspondence between Samuda's "présent" of 1, 2, 4, 5, 6, 9, 10, 12, 13 and the Akkadian present *ibanni*, *ilammad*, *ikaššad*, *išabbir*, etc. is more than obvious. Just as clearly, his "futur" corresponds to the Arabic "jussive" *yabni*, *yaṯbir*, etc. The "présent" of the second type with a *t* element, in 3, 7, 8, 11, reminds us primarily that also in Akkadian there exists a certain affinity between durative-present and *tn-* form.

From this material alone, there can exist no more doubt of a rather close relationship between the Berber and the Akkadian verbal schemes.

It should be mentioned that today Samuda's "passé" is labeled as "prétérit" in French Berberology, in German as "Faktum". His "futur" is called today "aorist" or "Fiens". His "présent" is today labeled as "forme d'habitude" or "Habitativ"; it is the old durative. "La forme d'habitude exprime l'habitude (de là son nom), la durée ou la répétition" (Basset and Crouzet 1937:46). These are exactly the nuances that we were just able to ascertain for the Akkadian present. Thus, corresponding to the formal analogy, we also have a functional one.

A. THE STEM MODIFICATIONS

§39. Provisionally, only the stems $0/1$, $t/1$, $s/1$ and $t:s/1$ are uncontestably identifiable in Berber; the t element (in association with u vocalism) is here the passive sign. The observation of the 2- and 3-stems still offers difficulties. There is an abundance of types with very varied, highly interesting ablaut phenomena whose habitative forms are distinguished by a t element, concerning which the question must provisionally remain open whether it is a matter of original t stems which have dropped their t in the preterite (as we shall see Beḍaue doing), or whether the t habitatives have been joined by secondary suppletion to t -less preterite forms. In fact, it seems to a large extent to be a matter of reflexive and neutral verbs. Moreover, t has been extended further still as a habitative sign by analogy. To Akkadian n stems there correspond in Berber m stems, whose meaning is passive or social. There prevails a great freedom in Berber in respect of the combination of several stem-modifying elements. To give here a picture of the unending multiplicity of the Berber verb is impossible and, moreover, this would far overstep our fixed framework. We must content ourselves with several characteristic examples. For a superb monograph on the Berber verb we are indebted to A. Basset (1929).

§40. Following is a table of Berber verbs and their stem modifications. They are once again listed in the form of the imperative (m. sg.):

in passive stems, which form no imperative, the form is abstracted from the so-called "future".

			Akkadian
0/1	base stem	<i>elmed</i> "learn"	<i>limad</i>
		<i>ergem</i> "insult"	<i>rugum</i>
		<i>efser</i> "spread out"	<i>šabat</i>
		<i>ergil</i> "lock"	<i>piqid</i>
		<i>erwul</i> "flee"	
		<i>ens</i> ^(e) "pass the night" (III inf.)	
		<i>enġ</i> ^(e) "kill" (III inf.)	
t/1	passive base stem	<i>*tuargem</i> "be insulted"	<i>kitšad</i>
		<i>*tiurgil</i> "be locked"	
s/1	causative stem	<i>selmed</i> "teach"	<i>šalmid</i> (Assyr.)
		<i>sens</i> ^(e) "give night lodging"	<i>šakšid</i> (Assyr.)
		<i>senz</i> ^(e) "sell" (assimilated from <i>*senz</i> ^[e])	
t:s/1	passive causative stem	<i>*tuzenz</i> ^(e) "be sold"	<i>šutakšid</i> (<i>< *tu-šakšid</i>)
m/1	passive and social stem	<i>*menza</i> "be sold"	<i>nakšid</i>

In addition, it should be noted that the *t* element always appears prefixed, even in the *s* causative. This is a highly archaic feature. One thinks of Aramaic, e.g., Syriac *t/1 eḡqat^{el}*, *t:s/1 ettaqṭal* from **eḡ-ṭaqṭal* (imperative forms).

B. THE SUFFIX CONJUGATION

§41. The Berber suffix conjugation, which could, as we shall see, be appropriately labeled, like the Akkadian, as "permansive", has survived in its original shape in Kabylie only in the "verbes de qualité",

and shows up only in the stem *o/1*. Remnants of the conjugation are still detectable in the dialects of *Tuâreg*, *Ġât*, *Ġebel Nefûsa*, and *Ġadâmis* (cf. Laoust 1932:§107). (Verbs of quality that follow this suffix conjugation lack, in return, the preterite of the prefix conjugation; cf. the similar relationships in Akkadian. The Kabylic suffix conjugation has naturally neutral character; a suffix conjugation corresponding to the active perfect *katala* of the Young Semitic languages is completely lacking in Berber.) In the plural a reduction of the forms has already taken place.

Paradigm: *ihnin* "be sympathetic"

	(Akkadian)
sg. 3 m. <i>hnin</i> "he is sympathetic"	<i>ṣeher</i> "he is small"
3 f. <i>hninet</i>	<i>ṣeḥret</i>
2 m. <i>hnined</i>	<i>ṣeḥrēta</i>
2 f. <i>hnined</i>	<i>ṣeḥrēti</i>
1 c. <i>hnineḡ</i>	<i>ṣeḥrēku</i>
pl. 3-1 c. <i>hninit</i>	cf. the adjectival plural m. <i>ṣeḥrūt(um)</i> , f. <i>ṣeḥrēt-(um)</i> !

The endings of the singular correspond exactly to those of Akkadian; *ḡ*, *ḡ* are intensified from *t*, *k* (*t*, *k* still survive isolated dialectally). The lone ending of the plural *-it* probably corresponds to the Akkadian adjectival plural endings m. *-ūt-*, f. *-āt-*.

In other Berber dialects, this formation has already been transferred to the prefix conjugation.

§42. We also meet verbs of quality which double their middle consonants in the suffix conjugation (or in the prefix conjugation developed from it), cf. Kabylic:

<i>ismiḍ</i> "be, become cold"	<i>semmiḍ</i> "he is cold"
<i>ibrik</i> "be, become black"	<i>berrik</i> "he is black"
<i>imlul</i> "be, become white"	<i>mellul</i> "he is white"

To these there correspond in Akkadian the forms *ṣeḥḥer* "he is small", *qarrad* "he is heroic", thus permansives, which are closely connected with the durative presents of the prefix conjugation. H. Stumme (1899:§109.B' and §122.a) was thus completely right when he declared this formation to be a type of habitative form; it is, so to speak, the "habitative form of the suffix conjugation", the permansive A, that expresses "inherent qualities".

§43. The equivalent of the verbs of quality in the nominal realm are the adjectives. The equivalent of the just-cited subdivision of the verbs of quality, with doubling of the middle consonant, are adjectives with corresponding consonant doubling. Such adjectives are still detectable in the Semitic realm, and, indeed, detectable precisely in the same concepts from which Berber forms its permansive with consonant doubling, primarily in the color concepts:

Berber		Semitic
<i>berrik</i>	"he is black"	Aram. <i>ʔukkām</i> "black"
<i>zegg^waḡ</i>	"he is red"	New Hebr. <i>simmūq</i> "red"
<i>meṣṣi(k)</i>	"he is small"	Akkad. <i>ṣeḥḥerum</i> "small"
<i>mellul</i>	"he is white"	Aram. <i>ḥiwwār</i> "white"
<i>meqqor</i>	"he is great"	Arab. <i>kubbārūn</i> "great"

The Semitic nominal forms could almost be called participles to the Berber verbal forms.

§44. H. Stumme (1899:§109.B' 2) defines the meaning of the Berber suffix conjugation to the effect that it serves "to depict realization

and present continuance of the pertinent physical condition or the pertinent color phenomenon". Hence one can gather that the analogy to the Akkadian permansive is a complete one.

In conclusion, a few more words on the vocalism of the Berber "verbes de qualité" need to be said. We find amongst them all three types: *katala*, *katila*, and *katula*:

I. Type *katala*, *kattala*:

- | | | |
|----|------------------------------|-----------------------|
| A. | <i>reḡag</i> "il est amer" | (Basset 1929:No. 140) |
| B. | <i>meḡḡag</i> "il est sourd" | (Basset 1929:No. 137) |
| | <i>weṣṣar</i> "il est vieux" | |
| | <i>heggaḡ</i> "il est rouge" | |

II. Type *katila*, *kattila*:

- | | | |
|----|-------------------------------|-----------------------|
| A. | <i>lekin</i> "il est certain" | (Basset 1929:No. 141) |
| | <i>sedid</i> "il est mince" | (Basset 1929:No. 156) |
| B. | <i>lemmiḡ</i> "il est mou" | (Basset 1929:No. 138) |
| | <i>semmiḡ</i> "il est froid" | |
| | <i>heddiḡ</i> "il est pur" | |

III. Type *katula*, *kattula*:

- | | | |
|----|--|-----------------------|
| A. | <i>derus</i> "il est en petite quantité" | (Basset 1929:No. 142) |
| | <i>fesus</i> "il est léger" | (Basset 1929:No. 157) |
| B. | <i>kerruḡ</i> "il est étroit" | (Basset 1929:No. 139) |
| | <i>gezzul</i> "il est court" | |
| | <i>mellul</i> "il est blanc" | (Basset 1929:No. 155) |

From this presentation, it is obvious that the type *katala* is just as neutral in Berber as are the two others. That it was originally so also in Semitic emerges just as clearly from the Semitic adjectival formations which belong here: Arab. *ḥadaṯun*, Hebr. *ḥadaš*¹⁵, etc., "new",

¹⁵One might note that Rössler does not indicate the spirantization

Hebr. *ḥakam* "wise", *laban* "white", Arab. *ṣakarun*, Hebr. *zakar* "masculine", Akkad. *ṭābum* "good", *rap(a)šum* "broad". Control: *katal* in the sense of an active participle does not exist in Semitic (or rather, exists only apparently [in Hebrew] in roots mediae infirmae [cf. Nöldeke 1910]).

C. THE PREFIX CONJUGATION

§45. The Berber prefix conjugation distinguishes habitative (A), "preterite" (B), and "jussive" ("future") (C). The last two named formations are distinguished in a part of the verbs by vowel alternation, and in the rest are identical.

0/1 paradigm: *ekšem* "enter":

		A		B = C	
		Akkadian		Akkadian	
sg. 3 m.	<i>ikeččem</i>	<i>ikaššād</i>	<i>ikšem</i>	<i>ikšud</i>	
3 f.	<i>tekeččem</i>	<i>takaššād</i>	<i>tekšem</i>	<i>takšud</i>	
2 m.	<i>tekeččemeḍ</i>	<i>takaššād</i>	<i>tekešmeḍ</i>	<i>takšud</i>	
2 f.	<i>tekeččemeḍ</i>	<i>takaššādī</i>	<i>tekešmeḍ</i>	<i>takšudī</i>	
1 c.	<i>keččemeḡ</i>	<i>akaššād</i>	<i>kešmeḡ</i>	<i>akšud</i>	
pl. 3 m.	<i>keččemen</i>	<i>ikaššādū</i>	<i>kešmen</i>	<i>ikšudū</i>	
3 f.	<i>keččement</i>	<i>ikaššādā</i>	<i>kešment.</i>	<i>ikšudā</i>	
2 m.	<i>tekeččemem</i>	[<i>takaššādū</i>]	<i>tekešmem</i>	[<i>takšudū</i>]	
2 f.	<i>tekeččememt</i>	<i>takaššādā</i>	<i>tekešment</i>	<i>takšudā</i>	
1 c.	<i>nekeččem</i>	<i>nikaššād</i>	<i>nekšem</i>	<i>nikšud</i>	

of the Hebrew ב ג ד, כ פ ת /b g d, k p t/ as he does in Aramaic (translator).

Here it should be noted that in the 2nd and 1st sg. the endings *-ḏ*, *-ḡ* have penetrated from the suffix conjugation. Thus the 2nd sg. has a doubled pronominal element: *t....ḏ*. In the 1st sg., the original prefix *ʔa-* (which had become superfluous anyway) was dropped after the disappearance of the glottal stop. Also lost is the prefix *ya-* (which had become dispensible because of the characteristic endings) in the 3rd pl., which we would have to assume as **i-* on the analogy of the singular. In general, the old inflexion has been well maintained. In the endings of the 3rd and 2nd pl. the analogy of the personal pronouns is to be recognized:

pl. 3 m. *netnin*
 3 f. *netninti*
 2 m. *šeknim*
 2 f. *šeknimti*

N.B.: These are the forms of the dialect of *Wārgala*.

§46. Following is a table of the base forms (3 m. sg.) of the habitative (A) and the jussive (C) for all the stem modifications:

	A		C	
	Akkadian		Akkadian	
0/1	<i>ilammed</i>	<i>ilammad</i>	<i>adilmed</i>	<i>lilmad</i>
	<i>ireggem</i>	<i>iraggum</i>	<i>adirgem</i>	<i>lirgum</i>
	<i>ifessar</i>	<i>iṣabbat</i>	<i>adifser</i>	<i>liṣbat</i>
	<i>ireggil</i>	<i>ipaqqid</i>	<i>adirgil</i>	<i>lipqid</i>
	<i>ireggul</i>	<i>imaqqut</i>	<i>adirwul</i>	<i>limqut</i>
	<i>iness(a)</i>		<i>adins</i>	
	<i>ineqq(a)</i>		<i>ading</i>	

<i>t/1</i>	<i>ituargam</i>	<i>iktaššad</i>	<i>adituargam</i>	<i>liktašad</i>
	<i>itiurgal</i>		<i>aditiurgal</i>	
<i>s/1</i>	<i>isalmad</i>	<i>ušalmad</i>	<i>adiselmed</i>	<i>lišelmid</i>
	<i>isensa</i>	<i>ušaššad</i>	<i>adisens</i>	<i>lišekšid</i>
	<i>izenza</i>		<i>adizensz</i>	
<i>t:s/1</i>	<i>ituzenza</i>	<i>uštakšad</i>	<i>adituzenz</i>	<i>lištakšid</i>
<i>m/1</i>	<i>(itmenza)</i>		<i>adimenza</i>	<i>likkašid</i>

§47. Sufficient expression is not given in this table to the gigantic expansion which the *t* element has found in habitatives, whose pertinent preterite display no *t*, even in the *0/1* stems (cf. here *m/1*). We shall again find the same phenomenon, to a small degree, in Beḡaue in the reflexives: the present displays a *t* element that is lacking in the preterite, and we shall provisionally have to mark this phenomenon down as a property peculiar to the Hamitic branch.

It is highly worthy of note that Berber indicates the habitative, in all the derived stems, by *a* vocalism, more consistently even than Akkadian (exceptions to this rule are only seemingly so). One notes that in Berber, too, *t/1* has universal *a* vocalism. For the close relationship to Akkadian, the comparison of Berber *ilammed* : *ilmed*; *isalmad* : *iselmed* = Akkad. *ilammaḍ* : *ilmad*; *ušalmad* : *ušelmid* is impressive. Here there can be present no accidental, independent, parallel developments; for that the proportion is surely too multi-membered. If one wanted to assume that the identity of the Akkadian present and the Berber habitative were accidental in *0/1*, nevertheless it would be inconceivable that both forms are then identical in *s/1* too, where the formation occurs in another manner.

Concerning the distinguishing of habitative and preterite in Berber, we can determine: (1) in *0/1* the characteristic of the habitative is the doubling of the penultimate consonant; (2) the derived stems have *a* vocalism in the final syllable in the habitative; (3) combination of both occurs in *0/1*; (4) the habitatives with prefixed *t* are to be viewed as a feature of Berber, particularly in reflexives and neuters, but also

in other stems (corresponding to the *t* presents of the reflexives in Beḍauye); this means of formation, too, can be combined with others. (Points 1-3 correspond almost completely to the relationships in Akkadian.)

§48. Concerning the meaning of the prefix conjugations, it can be said that the jussive is also the narrative in the Berber of Morocco (cf. Akkadian), but that the habitative expresses custom, continuance, and also repetition in the past, and often, as a "durative-present", corresponds functionally to the Akkadian present completely. On the other hand, the jussive is, in most of the Berber dialects, the expression of necessity, volition, and becoming and serves (according to our concepts) as consecutive, optative, and future. It thus corresponds largely to the Arabic and Hebrew jussive, but also to the Akkadian precativ. It stands in an ablaut relationship to the preterite-factum, which, however, in most of the Berber dialects is now used as narrative.

§49. Exactly as in Akkadian, the present is employed for the expression of the negative imperative; Berber, too, makes use of its habitative for this purpose -- only it employs no inflexion form, but merely the pure stem, the habitual imperative form. Thus, we have *eImed* "learn", *wur lammed* "do not learn", the latter like Akkadian *lā talam-mad*; *lemmed* means, of course, "learn customarily".

§50. In conclusion, we can state that the Berber verb has preserved much that is archaic, as is unambiguously obvious from its often stunning agreements with Akkadian. This agreement is all the more astounding when one considers the gigantic temporal and spacial distance: Berber we know almost exclusively from the last hundred years -- Akkadian bloomed over four millennia ago; Berber still resounds today up to the shores of the Atlantic Ocean -- Akkadian was spoken and written on the Euphrates and Tigris. The temporal extremes of distance thus come to approximately four millennia, the spatial over four thousand kilo-

meters. Nevertheless, the two languages are in many respects more closely interrelated than are any two others. We have hereby perhaps presented the sensational result of our investigation.

V. EGYPTIAN¹⁶

§51. Before we make the transition to the East Hamitic group, we would like to cast a short glance upon Egyptian (the other ancient high culture language of the great language family besides Akkadian), the citation of which is inevitable if only on account of the high antiquity of its transmission. To be sure, at an early period Egyptian went its own way in some respects, so that in spite of its high antiquity it contributes less to the answer of the question which concerns us than would be expected.

Egyptian displays some special agreements with all individual Semitic and Hamitic languages; in a lexical respect it appears as though it has selected something from each one (cf. Calice 1936). This need not, however, rest only on language mixing and loan relationships, but may likely be the consequence of the primitive family relationship.

A more critical flaw is our still very imperfect knowledge of Egyptian vocalism, a consequence of the purely consonantal character of the hieroglyphic script.

A. STEM MODIFICATIONS¹⁷

§52. The formation of stem modifications is to a large extent no longer living in Egyptian. Apart from *o/2* and *o/3*, the determination of which is difficult as a result of the purely consonantal script, the *s* form alone is still actually productive.

¹⁶Cf. Sethe 1899-1902.

¹⁷Cf. Feichtner 1932a and 1932b.

0/1, the base stem, is, of course, present as the usual form of the Egyptian verb.

t/1, the reflexive base stem, is frozen and very rare -- denominative in the following example:

iś·t "seat" ~ *t·iś* "set oneself, sit"

We might well ascribe 0/2, the intensive stem, to the language, as such forms are existant in Coptic:

sóww^en "recognize"
**tóww^et* "assemble"
róww^eš "worry"
hóww^eš "revile"
sóww^e "become dry"
nóyy^es "keep watch"

It is noteworthy that the language has retained 0/2 forms only from II inf. (cf. Sethe 1899.I:§344f).

0/3 is not determinable with our present means.

s/1, the causative stem, is clearly determinable and well known:

‘nh "live" ~ *ś·‘nh* "maintain alive"

and many others.

Such forms survive, frozen, still in Coptic. Whether there were also *s*/2, *s*/3 cannot be said. *t* formations to the causative stem could not be detected.

n/1 (4-rad.) is frozen and very rare:

ddy "last" ~ *n·dd·dd* "last eternally"

m/1, the social stem, is likewise frozen and very rare:

śḥ "take a bow" ~ *m·śḥ* "bow to one another"

The two social verbs κατ' ἐξοχήν are evidently frozen *m* formations:

m·ny "love" and *m·śdy* "hate"

Thus, it is at least determinable that Egyptian must at one time have possessed, in living use, the same principle of formation of stem modifications as the other related languages possess.

B. THE SUFFIX CONJUGATION¹⁸

§53. The Egyptian suffix conjugation, the so-called pseudo-participle, originally possessed a transitive form corresponding exactly to the Akkadian permansive upon the active participle *kāšidum*; this, however, had already died out in the language of the Middle Kingdom; and it possessed an intransitive passive corresponding to the Akkadian permansive upon the participle *kaš(i)dum*; this too, in the course of the language development, kept on decaying, and at last survived in Coptic only in petrified remnants (as so-called qualitative). The last-cited form is closely related to the Arabic types *katīla*, *kutīla*, *kat-ula*.

Inflexion

	Akkadian
Sg. 3 m. <i>nfr</i> (²) "he is good, handsome"	<i>ṣeher</i> "he is small"

¹⁸Cf. Sethe 1899.II:§1f.

3 f. <i>nfrt(i)</i>	<i>ṣḥret</i>
2 m. <i>nfrt(i)</i>	<i>ṣḥrēta</i>
2 f. <i>nfrt(i)</i>	<i>ṣḥrēti</i>
1 c. <i>nfrk(wi)</i>	<i>ṣḥrēku</i>
pl. 3 m. <i>nfrw</i>	<i>ṣḥrū</i>
3 f. <i>nfrt(i)</i>	<i>ṣḥrā</i>
2 m. <i>nfrtywn(i)</i>	<i>ṣḥrētunū</i>
2 f. <i>nfrtywn(i)</i>	<i>ṣḥrētina</i>
1 c. <i>nfrw(i)n</i>	<i>ṣḥrēnu/i</i>

In Coptic, the frozen 3 m. sg. and occasionally the frozen 3 f. (= 2 m/f. sg.) are retained: *nfr(i)* (= Copt. *nófer*), apparently to be vocalized **náf(i)ra*, "he is good"; *srft(i)* (= Copt. *sróft*), apparently to be vocalized **saríf(a)ta*, "thou art idle" (thus with the same accent division as Arabic *katīla*, *katīlta*, and not as Akkadian *kašīd*, *kašdāta*).

We observe the great similarity in use between Egyptian pseudo-participle and Akkadian permansive:

Eg.: *gmm·k dṛw·f šm(i)*, *h·t·f qbt(i)*... "thou findest his sole while it is hot and his body while it is cold..."

Akk.: *Ištar ērubam... tamḥat qašta ina idī-ša* "Ishtar entered... while she was (having) grasped with regard to the bow in her hand (= had the bow in her hand)"

It is well to take advantage of this typical example of the use of the Egyptian participle to see how this formation came by its designation.

§§54-57 on the prefix conjugation have been deleted (see "Author's Foreward").

VI. BEDAUYE¹⁹

§58. We come now to the language of the Erythraic *Beḡa* (who were already known to the ancient Egyptians as *Md̥iṯw*), Beḡaye. It is the only representative of the East Hamitic group with a well-preserved old verbal scheme. More or less characteristic for East Hamitic as a whole is the recasting of the old Semito-Hamitic syntax by a substratum element. It is evidently a matter of the same substratum which Amharic, amongst the Semitic languages of Abyssinia, can thank for its syntactic recasting. Under the influence of this element -- which, to borrow a term from anthropology, we shall for the moment simply designate as "Ethiopic" -- practically all the Semitic and Hamitic languages of East Africa underwent a syntactic recasting in which all the old inherited laws of word order were changed into their opposites. Thus, Beḡaye, too, offers an alien picture syntactically. It cannot, however, be emphasized strongly enough that the "reversed syntax" of Beḡaye, etc., is not a Hamitic heritage -- in the closely related Berber language we find just as little trace of this as in Egyptian.

With the operation of the Ethiopic substratum must be connected, too, the indirect verbal inflexion (something like "he does go" instead of "he goes") which in Beḡaye is already setting in and which has become stronger yet (or alone prevailing) in other East Hamitic languages. In this inflexion the verbal stem (to be conceived nominally) is conjugated by means of a postposited auxiliary verb, which alone is inflected -- in the totally normal manner of the prefix conjugation. It is, therefore, characteristic that the "denominative" verbs, which are thus handled, also form their stem modifications by the postpositing of their formative elements *t*, *s*, *m*, not by prepositing, as otherwise in Semito-Hamitic as a whole. It is here once again a matter of the transposition of the sequence of linguistic means of expression under the influence of

¹⁹Cf. Almkvist 1881-85 and Reinisch 1893-94.

the substratum.

And if the "Chado-Hamitic" Hausa in Middle Sudan likewise post-posit the causative sign *s* (in the rare cases in which it makes use of it at all), it thereby evidences primaeval relationships to East Hamitic (cf. Beḍaḡye denominative verb *tam* "eat", *tams* "cause to eat" with Hausa *saya* "buy", *sayas* "cause to buy, sell" [cf. Weydling 1942: §71]).

Beḍaḡye, however, is still endowed with a sufficient stock of "primitives", i.e., verbs conjugated in the old Semito-Hamitic manner, so that a fruitful comparison with the other languages is possible. In what follows, everything stated concerning Beḍaḡye has relevance only to, and validity only for, the "primitive" verbs. In addition to this Semiticizing stratum, we have in Beḍaḡye the other stratum, by which it is closely bound with all those languages which are under the influence of the Ethiopid substratum.

A. THE STEM MODIFICATIONS

§59. Beḍaḡye knows the below-listed stem modifications. The imperative stem serves as our normal form.

0/1	base stem: active	<i>fedig-</i> "loosen, unbind, release"
	neutral	<i>nekās-</i> "become short"
t/1	refl. pass. base stem	<i>fedāg-</i> "release oneself"
		(at) <i>fedāg-</i> "be released, freed"
0/2	intensive stem	<i>fādīg-</i> "expel"
t/2	pass. intensive stem	<i>atfādāg-</i> "be expelled"
s/1	causative stem: from act.	<i>sefādīg-</i> "loosen, cause to release"
	from neut.	<i>senkās-</i> "shorten"
t:s/1	refl. causative stem	<i>sefedāg-</i> "cause to release oneself" (from *etsefedāg-)
s/2	caus. intensive stem	<i>sefādīg-</i> "cause to expel"
m/1	social passive stem	<i>emfādāg-</i> "help to loosen"
m/2	soc. pass. intensive stem	<i>mêfdāg-</i> "help to expel"

Beḍauye characterizes the neutral verbs in 0/1 by *a* vocalism, like the Young Semitic languages. Furthermore all *t* and *m* stems have *a* vocalism. For the formation of the *t* stems, we may compare the relationships in Syriac. (In place of the Semitic *n* form, there is in Beḍauye, as in Berber, an *m* form; it usually has social meaning, which often changes into passive. The usual expression of the passive is, like in Berber, the *t* forms.)

B. THE SUFFIX CONJUGATION

§60. Beḍauye possesses the suffix conjugation and, indeed, like Akkadian, in a functionally highly archaic pattern. Almkvist (1881-85: §92; see also Reinisch 1893-94:§139f) called this formation of Beḍauye -- according to which any qualifying noun is inflected as a predicate -- "verbum substantivum". Beḍ. *Bilāl rānk^wību* "Bilāl is a coward" corresponds exactly to Akkad. *awēlum šū šarraq* "that man is a thief". Both formations stand respectively in quite similar relationship to their pertinent presents of the prefix conjugation: Beḍ. *arānk^wī* "I fear", Akkad. *ašarriq* "I steal".

The equivalent of the Akkadian permansive *šeher* is also demonstrable in Beḍauye: *nāfiru/e* "he is sweet, charming".

The pronominal elements, however, of the suffix conjugation are largely assimilated one to another, in the manner of (if not quite so strongly) the Coptic qualitative and the plural of the Kabylic permansive. For all that, one who does not know and keep before his eyes the degeneration process of the Egyptian pseudo-participle to the Coptic qualitative would succumb to the temptation to discern in this inflexion of Beḍauye a primitive beginning, not the end of a long development. Following is the paradigm for comparison with the Egyptian forms:

Beḍauye	Egyptian
sg. 3 m. <i>nāfiru/e</i> "he is sweet, charming"	<i>nfr(ī)</i> "he is good, handsome"

3 f.	<i>naḫirtu/e</i>	<i>nḫrt(i)</i>
2 m.	<i>naḫirwa (!)</i>	<i>nḫrt(i)</i>
2 f.	<i>naḫirtwi</i>	<i>nḫrt(i)</i>
1 = 3	<i>(!)</i>	<i>nḫrk(wi)</i>
p1. 3 m.	<i>naḫirāba</i>	<i>nḫrw</i>
3 f.	<i>naḫirāta</i>	<i>nḫrt(i)</i>
2 m.	<i>naḫirābāna (!)</i>	<i>nḫrtyn(i)</i>
2 f.	<i>naḫirātāna</i>	<i>nḫrtyn(i)</i>
1 = 3 or 2	<i>(!)</i>	<i>nḫrw(i)n²⁰</i>

C. THE PREFIX CONJUGATION

§61. The prefix conjugation is, in the primitive verbs, fully intact in Beḫauye. It distinguishes "present" (A) and "preterite" (B). We give the paradigm of the active verb *fedig-* "loosen", in the present also of *rek^wi-* (III inf.) "fear" and *dir-* (I inf.) "kill".

A			B		
			Akkadian		Akkadian
Sing.					
3 m.	<i>fandîg</i>	<i>rânk^wî</i>	<i>yendîr</i>	<i>inamdin</i>	<i>yéfdig</i> <i>iddin</i>
3 f.	<i>fandîg</i>	<i>rânk^wî</i>	<i>tendîr</i>	<i>tanamdin</i>	<i>téfdig</i> <i>taddin</i>
2 m.	<i>fândîga</i>	<i>râhk^wîya</i>	<i>téndîra</i>	<i>tanamdin</i>	<i>téfdiga</i> <i>taddin</i>
2 f.	<i>fândîgi</i>	<i>râhk^wîyi</i>	<i>téndîri</i>	<i>tanamdinî</i>	<i>téfdigi</i> <i>taddinî</i>
1 c.	<i>afandîg</i>	<i>arânk^wî</i>	<i>andîr</i>	<i>anamdin</i>	<i>áf dig</i> <i>addin</i> .

Plural

3 m.	<i>yefadîgna</i>	<i>yerānk^wîna</i>	<i>yédîrna</i>	<i>inamdinû</i>	<i>yéfdîgna</i>	<i>iddinû</i>
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²⁰Egyptian *nḫrw(i)n* is likely to formally correspond to Beḫauye *naḫirābāna*.

3 f.	<i>yefadīgna</i>	<i>yerānk^wi</i> na	<i>yēdirna</i>	<i>inamdīnā</i>	<i>yefdīgna</i>	<i>iddīnā</i>
2 m.	<i>tefadīgna</i>	<i>terānk^wi</i> na	<i>tēdirna</i>	[<i>tanamdīnū</i>]	<i>tefdīgna</i>	[<i>taddīnū</i>]
2 f.	<i>tefadīgna</i>	<i>terānk^wi</i> na	<i>tēdirna</i>	<i>tanamdīnā</i>	<i>tefdīgna</i>	<i>taddīnā</i>
1 c.	<i>nefadīg</i>	<i>nerānk^wi</i>	<i>nēdir</i>	<i>ninamdīn</i>	<i>nēfdīg</i>	<i>niddīn</i>

It is to be seen from this table that in the 3 and 2 sg. of A the prefixes are usually dropped; they are only retained in the I inf. (on account of the different syllable division). The verb *rek^wi*- "fear" alone retains the infixed *n* also in the plural forms; the other verbs display it only in the singular. In the endings of the 3 and 2 pl., influence of the personal pronouns, exactly as in Berber, once again is to be recognized:

p1.	3 m.	<i>barā-sna</i>
	3 f.	<i>batā-sna</i>
	2 m.	<i>barā-kna</i>
	2 f.	<i>batā-kna</i>

§62. Following is again a table of the base forms (sg. 3 m.) of the "present" (A) and "preterite" (B) for all the stem modifications:

A			B		
		Akkadian			Akkadian
0/1	act.	(<i>*ye</i>) <i>fandīg</i>	<i>inamdīn</i> , <i>ipaqqid</i>	<i>yéfdīg</i>	<i>ipqid</i>
	neut.	<i>yēnkasī</i>		<i>yenkās</i>	
t/1	refl.	<i>yetfadīg</i>	<i>iktaššad</i>	<i>yefdāg</i>	<i>iktašad</i>
	pass.	<i>yetfadīg</i>		<i>yetfedāg</i>	
0/2		<i>yêfdīg</i>	<i>ukaššad</i>	<i>yefādīg</i>	<i>ukaššid</i>
t/2		<i>yetfādīg</i>	<i>uktaššad</i>	<i>yetfādāg</i>	<i>uktaššid</i>
s/1	from act.	<i>yesfadīg</i>	<i>ušakšad</i>	<i>yesfedīg</i>	<i>ušakšid</i>
	from neut.	<i>yēsnekasī</i>		<i>yesenkās</i>	
t:s/1		(<i>yesfadīg</i>)		<i>yesfedāg</i>	

s/2	<i>yesfādīg</i>	<i>uškaššad</i>	<i>yesfādīg</i>	<i>uškaššid</i>
m/1	<i>yemfādīg</i>	<i>ikkaššad</i>	<i>yemfedāg</i>	<i>ikkašid</i>
m/2	<i>yemêfdīg</i>		<i>yemêfdāg</i>	

§63. The preterite of Beḡauye agrees well with that of Akkadian on the whole. All the *t* and *m* forms, however, as well as the neuters of 0/1 "intransitives" have rigorously enforced *a* vocalism (in the preterite!). We find tendencies in this direction already in Berber (in *t/1*). The old *a* vowel in the final syllable of the present, on the other hand, appears in Beḡauye as *ê* (!) throughout and in the 0/1 is combined with nasalization of the penultimate consonant (in place of the otherwise usual consonant doubling; yet perhaps the nasalization is actually to be considered -- in view of Akkad. *inamdin*, etc. -- as the more original; Beḡauye is wont to drop genuine old consonant doubling with compensatory lengthening of the preceding vowel, cf. 0/2).

§64. A few words must still be said now concerning the neuters and the reflexive *t* stem, which formally coincide in the preterite. The neuters follow the analogy of 0/2 in that they are treated as IV inf. of this stem and form their present with an appended *ê*. The reflexives form their present with prefixed *t* so that they thus coincide formally with the passives; it is the meaning alone that is reflexive in one case and in the other passive. But what is most striking is that in the reflexive stem of Beḡauye, we have before us a formation which is *t*-less in the preterite, but displays a *t* element in the present. We recall that the same is the case in a great part of the Berber verbs -- it is obviously a matter of a special feature of the "Hamitic" branch.

We can thus determine that Beḡauye employs the following means for distinguishing the present and the preterite: (1) in 0/1 the most important characteristic of the present is nasalization of the penultimate consonant (corresponding to doubling or, in certain cases, nasalizing in Akkadian); (2) common to the base stem and the derived stems is *ê* vocalism of the final syllable in the present (corresponding to the almost

universal α vocalism of the present in Akkadian); (3) both means always appear combined in o/i ; (4) a peculiar feature of Beḍaŷe is the present formation with prefixed t in the reflexive; it is always combined with \hat{e} vocalism; (5) suffixed present vowel \hat{e} in the neuters.

1-3 correspond almost completely to the relationships in Akkadian, 1-4, likewise, to those in Berber -- with the singular distinction that in Beḍaŷe the original present vowel α is replaced by \hat{e} .

§65. With Beḍaŷe we have observed a language which, as the representative of the East Hamitic group, diverges further from the base type than any other language of another group. Yet here, too, we could detect this base language in its essential traits. As we have seen, many features of Beḍaŷe return in the closely-related, well-preserved Berber languages; we have to consider these as special features of the "Hamitic" branch of the total language family. On the whole, Beḍaŷe presents a confirmation for that which the previously considered languages, principally Akkadian and Berber, have taught us.

VII. MEHRI²¹

§66. There still remain to be considered the languages of the West Semitic transition group. It would be of great value for our investigation here if we knew more of the verbal inflexion of Minaeo-Sabaeen (or Old South Arabic). Even with our limited knowledge, Hommel (1893:§20.41) would like "to affirm with a high degree of likelihood" the question whether both types *yakattal* and *yaktul* are still present in the Minaeo-Sabaeen prefix conjugation; however, he believes that we "still are in need of a greater number of longer texts" in order to be able to prove it. We now possess a new and exhaustive presentation by M. Höfner (1943) of Old South Arabic grammar from which we discern that

²¹Cf. Bittner 1909-14. (Cf. Supplement to References [translator].)

the solution of the problem is today still not possible. We must thus content ourselves here with a "high degree of likelihood" and consult, in place of the Old South Arabic, the Modern South Arabic languages of the Mahra group, of which the most important, Mehri -- the language of the Ḥaḍramaut Mahra land (which has been made accessible in so genial a manner by M. Bittner) -- will be investigated here.

A. THE STEM MODIFICATIONS

§67. Mehri possesses the following stem modifications which once again will be listed in the form of the imperative (sg. m.):

				Akkadian
0/1	base stem: act.	<i>tebêr</i>	< * <i>θebér</i>	<i>šibir, kušud</i>
		neut. <i>tebôr</i>	< * <i>θäbâr</i>	
		4 rad. <i>nhâwfel</i>	< * <i>nähâwfel</i>	<i>nabalkit</i>
t/1	refl. base stem A.	<i>ktîteb</i>	< * <i>ktâteb</i>	cf. Arab. <i>iqtatil</i>
		B. <i>ktetôb</i>	< * <i>ktätâb</i>	cf. Eth. <i>taqatal</i>
0/2-3	intensive stem	<i>kôteb</i>	< * <i>kátteb/kâteb</i>	<i>kaššid</i>
t/2-3	refl. intensive stem	<i>ktôteb</i>	< * <i>ktátteb</i> , etc.	<i>kutaššid</i>
s/1	causative stem	<i>hákteb</i>	< * <i>sákteb</i>	<i>šakšid</i>
t:s/1	refl. causative stem	<i>šákteb</i>	< * <i>stákteb</i>	<i>šutakšid</i>
s/2-3	caus. intensive stem	(h) <i>kôteb</i>	< * <i>skátteb</i> , etc.	<i>šukaššid</i>
t:s/2-3	refl. caus. int. stem	<i>škôteb</i>	< * <i>stäkatteb...</i>	<i>šutakaššid</i>
m/1		<i>márkaḥ</i>	< * <i>márkeḥ</i>	<i>nakšid</i>

The prefixed *h* of the causative stem has arisen in Mehri, by phonetic law, from *s*; the prefixed *š* of the pertinent reflexive -- through **šš*, **št* -- from **st*. The 2 and 3 stems have coincided by phonetic law and are not to be distinguished by means of the Mahra language alone.

$s/2-3$ *kôteb* from **hkôteb* has formally completely coincided with $0/2-3$ *kôteb* through the quiescence of the *h* and cannot be distinguished from it; one can only separate the two stems in those verbs which also form the pertinent *t* reflexives -- from these we have in the one case *kôteb* ($0/2-3$) : *ktôteb* ($t/2-3$), in the other *kôteb* ($s/2-3$) : *škôteb* ($t:s/2-3$).

The *t* forms offer much of interest. We find in $t/1$ a *ktîteb* that probably corresponds to the *ketêb*, in $t/2-3$ a *ktôteb* that obviously belongs to *kôteb*, further a *šakteb* that belongs to *hâkteb*, and a *škôteb* that belongs to (*h*)*kôteb*. Outside stands $t/1$ *ktetôb* with *a* vocalism, corresponding exactly to Akkad. *kitšad* and Eth. *taqatal*. It is otherwise obvious from word comparison that $t/2-3$ stems of other languages also often correspond to the *ktetôb* of Mehri; it would then be like the Arabic and Ethiopic $t/2$, $t/3$ with *a* vocalism: *taqattal* and *taqātal*. Mehri thus possesses, and, indeed, as the predominant type, *t* forms with *a* vocalism of the final syllable; we recall that we could detect an affinity between *t* forms and *a* vocalism already in Berber and Beḍaue. It is here significantly a matter of "intransitive" *a* vocalism, exactly as it is in the neutral $0/1$ *ketôb*.

On the other hand, it is obvious from this table that the scheme of Mehri is still very close to that of Akkadian. Particularly to be stressed are the $s/2$ and $t:s/2$ stems, which Mehri has in common with Akkadian, while they are missing, e.g., in Arabic, Kanaṣanite and Aramaic. The comparison *ktôteb* = *kutaššid* also deserves to be stressed; the Arabic and Ethiopic forms diverge more widely.

B. THE SUFFIX CONJUGATION

§68. The suffix conjugation of Mehri also possesses, in the way of the Young Semitic languages, the active paradigm *katala*. The inflexion is the following:

	Active	Neutral	Akkadian	
	"he has broken"	"he is broken"		
sg. 3 m.	<i>tebôr</i> < * <i>ṭabára</i>	<i>tîber</i> < * <i>ṭábera</i>	<i>lîbes</i>	<i>labiš</i>
3 f.	<i>teberôt</i>	<i>tîberôt</i>	<i>lîbesôt</i>	<i>labšat</i>
2 m.	<i>tebérk</i>	<i>tîberk</i>	<i>lîbesk</i>	<i>labšāka</i>
2 f.	<i>tebéřš</i> (- <i>š</i> from * <i>-č</i> from * <i>-ki</i>)	<i>tîberš</i>	<i>lîbesš</i>	<i>labšāti</i>
1 c.	<i>tebérk</i>	<i>tîberk</i>	<i>lîbesk</i>	<i>labšāku</i>
pl. 3 m.	<i>tebôrem</i>	<i>tîberem</i>	<i>lîbesem</i>	<i>labšū</i>
3 f.	<i>tebôr</i>	<i>tîber</i>	<i>lîbes</i>	<i>labšā</i>
2 m.	<i>tebérkem</i>	<i>tîberkem</i>	<i>lîbeskem</i>	<i>labšākunū</i>
2 f.	<i>tebéřken</i>	<i>tîberken</i>	<i>lîbesken</i>	<i>labšātinā</i>
1 c.	<i>tebôren</i>	<i>tîberen</i>	<i>lîbesen</i>	<i>labšānu</i>

§69. The inflexion of *tebôr* is without analogy in Akkadian; it corresponds in both form and meaning to the Arabic, Ethiopic, etc. perfect *katala*. On the contrary, *tîber* "he is shattered" is very likely comparable with an Akkadian *šeber* "he is, was shattered". Particularly striking is that the inflexion of *tîber* never has the accent upon the vowel between the second and third radical; it is just this very vowel which is always elided in the Akkadian paradigm; thus, there, too, it never bore the accent.

In the ending of the 3 m. pl. the influence of the personal pronoun is to be recognized; noteworthy the 3 f. pl. is not affected thereby.

C. THE PREFIX CONJUGATION

§70. The prefix conjugation of Mehri distinguishes "present" (A) and "jussive" (C). We give the paradigm of the active transitive verb *tebêr* "to break":

0/1	A		C	
		Akkadian		Akkadian
sg. 3 m.	<i>yitôber</i>	<i>išabbir</i>	<i>yitbêr</i>	<i>išbir</i>
3 f.	<i>tetôber</i>	<i>tašabbir</i>	<i>tetbêr</i>	<i>tašbir</i>
2 m.	<i>tetôber</i>	<i>tašabbir</i>	<i>tetbêr</i>	<i>tašbir</i>
2 f.	<i>tetîber</i>	<i>tašabbirī</i>	<i>tetbêrī</i>	<i>tašbirī</i>
1 c.	<i>etôber</i>	<i>ašabbir</i>	<i>etbêr</i>	<i>ašbir</i>
pl. 3 m.	<i>yitéberem</i>	<i>išabbirū</i>	<i>yitbêrem</i>	<i>išbirū</i>
3 f.	<i>tetéberen</i>	<i>išabbirā</i>	<i>tetbêren</i>	<i>išbirā</i>
2 m.	<i>tetéberem</i>	[<i>tašabbirū</i>]	<i>tetbêrem</i>	[<i>tašbirū</i>]
2 f.	<i>tetéberen</i>	<i>tašabbirā</i>	<i>tetbêren</i>	<i>tašbirā</i>
1 c.	<i>netôber</i>	<i>nišabbir</i>	<i>netbêr</i>	<i>nišbir</i>

In the 2 f. sg. of A, the ending *-ī*, before it was lost, unlauted the accented vowel; while *tetôber* goes back to **teôâbber*, *tetîber* has arisen from **teôâbberī*.

In the prefix of the 3 f. pl., the analogy with the 3 f. sg. prevails -- in opposition to Akkadian, Arabic, etc., but in agreement with Hebrew, an agreement which is quite certainly purely an apparent convergence.

Once again (as we have already found in Berber and Beɖaɣye), in the endings of the 3 and 2 pl., influence of the personal pronouns is to be recognized:

pl. 3 m.	<i>hem</i>
3 f.	<i>sen</i>
2 m.	<i>tem</i>
2 f.	<i>ten</i>

§71. We now give again a table of the base forms (3 m. sg.) of the suffix conjugation, of the "present" (A), and of the "jussive" (C), for all the stem modifications:

	Suffix Conj.	Akkad.	A	Akkad.	C	Akkad.
0/1 act.	<i>tebôr</i>		<i>yitôber</i>	<i>išabbir</i>	<i>yitbêr</i>	<i>išbir</i>
neut.	<i>tîber</i>	<i>šeber</i>	<i>yitbôr</i>		<i>yitbôr</i>	
t/1 a.	<i>kátteb</i>	<i>kitšud</i>	<i>yiktetôb</i>		<i>yiktîteb</i>	
b.	<i>ktetôb</i>		<i>yiktetîben</i>	<i>iktaššad</i>	<i>yiktetôb</i>	<i>iktašad</i>
0/2-3	<i>kôteb</i>		<i>yikâteben</i>	<i>ukaššad</i>	<i>yikôteb</i>	<i>ukaššid</i>
t/2-3	<i>ktôteb</i>		<i>yiktâteben</i>	<i>uktaššad</i>	<i>yiktôteb</i>	<i>uktaššid</i>
s/1	<i>(ha)ktôb</i>		<i>yi(ha)ktôb</i>	<i>ušakšad</i>	<i>yihákteb</i>	<i>ušakšid</i>
			or <i>yi(ha)kôteb</i>	<i>ušbalakkat</i>		
t:s/1	<i>šaktôb</i>		<i>yišaktôb</i>	<i>uštakšad</i>	<i>yišákteb</i>	<i>uštakšid</i>
s/2-3	<i>(h)kôteb</i>		<i>yi(h)kâteben</i>	<i>uškaššad</i>	<i>yi(h)kôteb</i>	<i>uškaššid</i>
t:s/2-3	<i>škôteb</i>		<i>yiškâteben</i>	<i>uštakaššad</i>	<i>yiškôteb</i>	<i>uštakaššid</i>
m/1	<i>márkaḥ</i>		<i>yimrôkaḥ</i>	<i>ikkaššad</i>	<i>yimárkaḥ</i>	<i>ikkašid</i>

The suffix conjugation of Mehri agrees more closely with the Arabic, etc., perfect; it has taken the place of the old "preterite" (prefix conjugation B).

In *s/1* the prefixed *h* (from **s*) quiesces in all forms except C, where it stands in the accented syllable; but it is as a rule analogically restored after this form. In *s/2-3* the *h* (from **s*) quiesces completely, since it is not protected by any form that has a maintained *h*. As already mentioned, one only recognizes *s/2-3* stems in that they form *t:s/2-3* as reflexive.

In the *2-3* stems as a whole (as well as in one of the two *t/1* stems), the present, which would have become similar to the jussive through phonological change, is secondarily re-differentiated through an ending *-n*. Noteworthy this differentiation does not occur in the neutral *0/1*, where the two forms are likewise similar.

§72. The play of the differing vowels in the prefixes of the various stem modifications, which we have observed in Akkadian, is no more to be found here; but we might assume that it was at one time also present in Mehri in similar manner (?).

The present *0/1* is distinguished, exactly as in Akkadian, by doubling of the penultimate consonant: *yitôber* has developed by sound law from **yeðábbēr*, which correspond exactly to Akkadian *išabbir*.

It is interesting that many verbs form the present *s/1* by analogy with the present *0/1*: *yihakôteb* after *yikôteb*. We have been able to observe occasionally something similar in Akkadian in the present *0/1*.

s/1, *t:s/1* and *m/1* distinguish, exactly as in Akkadian, present and jussive by the characteristic vowel alternation *ô* (from **a*) : *e* (from **i*) in the final syllable. For *0/2-3*, *t/2-3*, *s/2-3* and *t:s/2-3* vowel alternation *a* : *i* in the final syllable is likewise to be set up with certainty, even if it is disguised by phonological development.

The whole picture is extraordinarily similar to that of Akkadian.

Yet Mehri knows intransitive *a* vocalism in *0/1*: the paradigm *yit-bôr* is intransitive.

In *t/1* two formations stand side by side, one with the just discussed characteristic vowel alternation, and one with uniform *a* vocalism.

Thus, the means for distinguishing the present from the jussive here are (if we disregard the secondary ending *-n* of certain stems) the following: (1) doubling of the penultimate consonant in the present *0/1*; (2) *a* vocalism of the final syllable in the present of the derived stems; (3) presumably a combination of both is to be set up for *0/1*.

§73. Concerning the meaning of the two prefix conjugations, the following is to be said: the so-called present of Mehri expresses not only our present and future -- that is to say, the non-completed and still continuing action -- but it stands also for the expression of continuance in the past, exactly like the Akkadian present. E.g., *ksût hâbû d-igâlqom wa-ḥarîm d-tenâheḡen wa-ḥeberê dedâulet d-eṣôr hel hâbû* "she found the men while they (continually) were looking on, and the women while they (continually) were playing, and the son of the sultan while he (continually) was standing by the men"²²; *siûr yitôlib wa-hâm-eh tbêk* "he went while he kept on begging and his mother kept on weeping".

In Mehri, the negative imperative, closely akin to the present, is also not wanting: *tbêk lâ* by phonological law from **tebâkkî lâ* "do not weep", exactly like the Akkadian *lā tabakki*!

§74. Since the old preterite has already been replaced in Mehri by the Young Semitic perfect, the jussive alone is left over as the second inflexion series of the suffix conjugation. The jussive, however, corresponds quite well in form and meaning to the precativ-jussive-cohortative of Akkadian; the particle *l-* can be preposited to it as to the latter. E.g., *l-inkâ* "let him come", *nemfâġ* "let us cast", *l-iftâḥ* "let him open" = Akkad. *liptē* "let him open"!

§75. We have considered with Mehri a Semitic language which stands in the transition from the Old Semitic type to the Young Semitic. The similarities between Mehri and Akkadian prove to be significant. The comparison of forms listed during our consideration of Berber can be extended to Mehri, too: Berber *ilammed* : *ilmed*; *isalmad* : *iselmed* = Akkad. *ilammad* : *ilmad*; *ušalmad* : *ušelmid* = Mehri *yikôteb* : *yiktêb*; *yihaktôb* : *yihákteb*! It must be conceded that chance is excluded here! The same holds true for the comparison Akkad. *lā tabakki* = Mehri *tbêk lâ*.

VIII. ETHIOPIAN²³

§76. We come now to Ethiopian, which was already brought into closer connection with Akkadian by P. Haupt (1889) and V. Christian (1919). Since we have been more exactly instructed concerning the traditional pronunciation of Ethiopian through the efforts of E. Littmann

²²These "continually's" are really not necessary for English readers, as they were for Rössler's German readers, since our past continuous, an equivalent of which German lacks, brings out the sense of the Mehri verb quite well (translator).

²³Cf. Dillmann 1899 and Littmann, *Äthiopische Grammatik* (unpubl.).

(1899), M. Cohen (1921), and E. Mittwoch (1925) -- the Ethiopian script leaves, in consequence of its imperfection, many important niceties, important precisely for comparison, in obscurity -- a comparison of the forms of the two languages extending into details is possible. The tables given here rest on these efforts.

A. STEM MODIFICATIONS

§77. Ethiopian possesses the following stem modifications which are once again listed in the form of the imperative (sg. m.):

			Akkadian	Mehri
0/1	base stem: act.	<i>seber</i>	<i>šibir</i>	<i>tebêr</i>
	neut.	<i>lebas</i>		<i>tebôr</i>
	4 rad.	<i>dangeş</i>		<i>márkaḥ</i>
t/1	med. base stem	<i>taqatal</i>	<i>kitšad</i>	<i>ktetôb</i>
0/2	intensive stem	<i>qattel</i>	<i>kaššid</i>	<i>kôteb</i>
t/2	med. int. stem	<i>taqattal</i>	Arab. <i>taqattal</i>	
0/3	social stem	<i>qâtel</i>		<i>kôteb</i>
t/3	med. soc. stem	<i>taqâtal</i>	Arab. <i>taqâtal</i>	
s/1	causative stem	<i>ʔaqtel</i>	<i>šakšid</i>	<i>hâkteb</i>
	4 rad.	<i>ʔadangeş</i>	<i>šubalkit</i>	
t:s/1	med. caus. stem	<i>ʔastaqtel</i>	<i>šutakšid</i>	<i>šâkteb</i>
	4 rad.	<i>ʔastadangeş</i>	<i>šutabalkit</i>	
s/2	caus. int. stem	<i>ʔaqattel</i>	<i>šukaššid</i>	<i>h-kôteb</i>
t:s/2	med. caus. int. st.	<i>ʔastaqattel</i>	<i>šutakaššid</i>	<i>škôteb</i>
s/3	caus. soc. stem	<i>ʔaqâtel</i>		<i>h-kôteb</i>
t:s/3	med. caus. soc. st.	<i>ʔastaqâtel</i>		<i>škôteb</i>
n/1	refl. stem (4 rad.)	<i>ʔang^warg^wer</i>	<i>naparšid</i>	<i>nhâwfel</i>

In Ethiopian, the imperatives *t/1*, *t/2*, *t/3* all have (intransitive) *a* vocalism of the final syllable (cf. Beḡ. *t/1*, *t/2-3*, *t:s/1*, *m/1*, *m/2*; Syr. *t/2*, *t:s/1*; Arab. *t/2*, *t/3*!). The stems *t/2* and *t/3* are more close-

ly affiliated through this peculiarity (as well as through the prefixing [and not infixing] of the *t* element) with the corresponding Arabic forms than with the Akkadian and Mehri.

B. THE SUFFIX CONJUGATION

§78. The suffix conjugation of Ethiopian resembles in form and function that of Mehri; only the forms of the neutral paradigm (through sound law development) have been largely assimilated in vocalism to those of the active.

Active		Neutral			
		Mehri		Akkad.	Mehri
sg. 3 m.	<i>sabára</i> "he broke"	<i>tebôr</i>	<i>lábsa</i> "he was clad"	<i>labiš</i>	<i>lîbes</i>
3 f.	<i>sabárat</i>	<i>teberôt</i>	<i>lábsat</i>	<i>labšat</i>	<i>lîbesôt</i>
2 m.	<i>sabárka</i>	<i>tebérk</i>	<i>labáska</i>		
2 f.	<i>sabárkî</i>	<i>tebéř</i>	<i>labáskî</i>		
1 c.	<i>sabárkû</i>	<i>tebérk</i>	<i>labáskû</i>		
pl. 3 m.	<i>sabárû</i>	<i>tebôrem</i>	<i>lábsû</i>	<i>labšû</i>	<i>lîbesem</i>
3 f.	<i>sabárâ</i>	<i>tebôr</i>	<i>lábsâ</i>	<i>labšâ</i>	<i>lîbes</i>
2 m.	<i>sabarkémû</i>	<i>tebérkem</i>	<i>labaskémû</i>		
2 f.	<i>sabárkén</i>	<i>tebéirken</i>	<i>labáskén</i>		
1 c.	<i>sabárma</i>	<i>tebôren</i>	<i>labásna</i>		

One takes note of the extraordinary similarity of the neutral forms, which have not been assimilated to the active (sg. pl. 3), with those of Akkadian and Mehri. In Ethiopian, the ending *k* prevails in the 2 person, exactly as in Mehri.

C. THE PREFIX CONJUGATION

§79. The prefix conjugation of Ethiopian distinguishes, exactly

like that of Mehri, "present indicative" (A) and "jussive" (C). We give the paradigm of the active verb *seber* "break".

	A	Akkad.	Mehri	C	Akkad.	Mehri
sg. 3 m.	<i>yesabber</i>	<i>išabbir</i>	<i>yitôber</i>	<i>yesber</i>	<i>išbir</i>	<i>yitbêr</i>
3 f.	<i>tesabber</i>	<i>tašabbir</i>	<i>tetôber</i>	<i>tesber</i>	<i>tašbir</i>	<i>tetbêr</i>
2 m.	<i>tesabber</i>	<i>tašabbir</i>	<i>tetôber</i>	<i>tesber</i>	<i>tašbir</i>	<i>tetbêr</i>
2 f.	<i>tesabberî</i>	<i>tašabbirî</i>	<i>tetîber</i>	<i>tesberî</i>	<i>tašbirî</i>	<i>tetbêrî</i>
1 c.	<i>ʔesabber</i>	<i>ašabbir</i>	<i>etôber</i>	<i>ʔesber</i>	<i>ašbir</i>	<i>etbêr</i>
pl. 3 m.	<i>yesabberû</i>	<i>išabbirû</i>	<i>yitéberem</i>	<i>yesberû</i>	<i>išbirû</i>	<i>yitbêrem</i>
3 f.	<i>yesabberâ</i>	<i>išabbirâ</i>	<i>tetéberen</i>	<i>yesberâ</i>	<i>išbirâ</i>	<i>tetbêren</i>
2 m.	<i>tesabberû</i>	[<i>tašabbirû</i>]	<i>tetéberem</i>	<i>tesberû</i>	[<i>tašbirû</i>]	<i>tetbêrem</i>
2 f.	<i>tesabberâ</i>	<i>tašabbirâ</i>	<i>tetéberen</i>	<i>tesberâ</i>	<i>tašbirâ</i>	<i>tetbêren</i>
1 m.	<i>nesabber</i>	<i>nišabbir</i>	<i>netôber</i>	<i>nesber</i>	<i>nišbir</i>	<i>netbêr</i>

The agreement between Ethiopian, Akkadian, and Mehri leaves nothing more to wish. To still entertain the thought of independent parallel developments here should be completely excluded.

§80. Following, once more, is a table of the base forms (3 m. sg.) of the "perfect" as well as of the "indicative" (A) and of the "jussive" (C) for the stem modifications as a whole:

	Perfect	Mehri : Akkad.	A	Mehri : Akkad.	C	Mehri : Akkad.
0/1 act.	<i>sabâra</i>	<i>tebôr</i>	<i>yesabber</i>	<i>yitôber : išabbir</i>	<i>yesber</i>	<i>yitbêr : išbir</i>
neut.	<i>lâb(e)sa</i>	<i>lîbes : labiš</i>	<i>yelabbes</i>		<i>yelbas</i>	<i>yitbôr</i>
4 rad.	<i>dangaša</i>	<i>mârkah</i>	<i>yedanaggeš</i>	<i>yimrôkah</i>	<i>yedangeš</i>	<i>yimârkah</i>
t/1 a.	<i>taqat(e)la</i>	<i>kâtteb : kitšud</i>	<i>yetqattal</i>	<i>yiktetîben : iktaššad</i>	<i>yetqatal</i>	<i>yiktetôb : iktašad</i>
b.	<i>taqatâla</i>	<i>ktetôb</i>				

0/2	qattala	kôteb	yeqêttel	yikâteben	yeqattel	yikôteb : ukaššid
t/2	taqattala	ktôteb	yetqêttal	yiktâteben : uktaššad	yetqattal	yiktôteb
0/3	qātala	kôteb	yeqâttel	yikâteben	yeqâtel	yikôteb
t/3	taqātala	ktôteb	yetqâttal	yiktâteben	yetqâtal	yiktôteb
s/1	ʔaqtāla	haktôb	yāqattel	yihakôteb	yâqtel	yihakteb : ušakšid
4 rad.	ʔadangasa		yādanaggeš	ušbalakkat	yādangeš	ušbalkit
t:s/1	ʔastaqtala	šaktôb	yāstaqattel		yāstaqtel	yīškakteb : uštakšid
4 rad.	ʔastadangasa		yāstadanaggeš		yāstadangeš	
s/2	ʔaqattala	hkôteb	yāqêttel	yihkâteben	yāqattel	yihkôteb : uškaššid
t:s/2	ʔastaqattala	škôteb	yāstaqêttel	yīškâteben	yāsta- qattel	yīškôteb : uštakaš- šid
s/3	ʔaqātala	hkôteb	yāqâttel	yihkâteben	yāqâtel	yihkôteb
t:s/3	ʔastaqātala	škôteb	yāstaqâttel	yīškâteben	yāstaqâtel	yīškôteb
4 rad.	ʔang ^w arg ^w ara nhūfôl		yāng ^w arag- g ^w er	ipparaššid	yāng ^w ar- g ^w er	yinhāwfel : ipparšid

§81. The Ethiopian perfect stands thoroughly upon the same level as that of Mehri. Characteristic for Ethiopian is the complete standardization of the present forms on the model of the present 0/1; and in the 0/1 itself there survives only a single form with an integral vowel in the final syllable (i.e., the type Akkadian *ikaššad* has disappeared). We have already been able to detect a definite tendency towards the generalization of the present formation of 0/1 in Mehri: s/1 *yihakôteb*, besides the older *yihaktôb*, on the model of *yikôteb*. In the derived stems of the quadriradicals we were able to detect such forms indeed in Akkadian -- forms which have become prevalent to the exclusion of all others in Ethiopian. This all means that in Ethiopian, as in Beḍauye, *α* as the characteristic vowel of the present has been completely dropped. It is apparently closely connected with this that the *α* serves here as the characteristic vowel of the neuters of 0/1 as well as of the reflex-

ive stems $t/1$, $t/2$, $t/3$ (cf. Lambdin 1978:149, 205, 222, 225 [tr.]).

Even if it is to be granted that the Ethiopian present forms make, in part, an artificial impression -- through the carrying out of the analogy of $0/1$, occasionally, over-long syllables have come into being which contradict the old syllable laws -- it can nonetheless never be assumed that the Ethiopian present as a whole is a construction of the grammarians. At the most, artificial systematization of the living language could have carried out the principle to its final consequence. Linguistic comparison teaches us that the present is an old possession of the language, and, how the forms must have appeared in the derived stems before the carrying out of the analogy of $0/1$, emerges with all desired clarity from the closely related Mehri and from Akkadian.

In conclusion, we can say that there has remained operative in Ethiopian only one of the means of distinguishing the present from the jussive, viz., the doubling of the penultimate consonant. This means has, to be sure, been exploited by the language until the ultimate consequence. But it is, however, precisely this very kind of present formation that we have established as the primary one in all the other languages, and so Ethiopian proves thereby that it stands in exactly the same linguistic tradition as the rest.

§82. The meaning, too, of the two forms of the prefix conjugation of Ethiopian fits exactly into the already known frames and agrees completely with the corresponding forms of Mehri. The present expresses not only our present and future -- the former "particularly when the present action is not one passing in a moment" (Dillmann 1899:§89a and b.α) -- but also an action of the past which "must be presented as continuing or as being gradually completed or as being repeated" (Dillmann 1899:§89b.β). It is thus exactly as the Akkadian and Mehri a "durative present", not a present in the sense of our grammar.

The jussive serves to "express an intention, will, or wish" (Dillmann 1899:§90), and also in dependent clauses as subjunctive -- exactly as the corresponding form of Mehri -- and corresponds to the Akkadian

form *ikšud* in all its functions except the preterital, for which Ethiopian, just like Mehri, has its suffix-perfect. The strengthening of the jussive by *la-* is likewise already known from Akkadian and Mehri.

§83. In conclusion, we can say that Ethiopian has preserved so much of the "Old Semitic" features that -- notwithstanding its special agreements with Arabic -- it is in many respects most closely related to Akkadian and Mehri; to the latter, not surprisingly, more closely than to the former. It is thus, likewise, a valuable witness for the older Semitic language type.

IX. SYNTHESIS

§84. With this, we have completed our consideration of six Semitic and Hamitic languages. It will appear surprising to many that there has hardly been any mention of those languages which as a rule stand in the center of a comparative linguistic consideration -- Arabic, Kanašānite, and Aramaic. The reason for this is that these embody a different language type which is, as we hope to have shown, relatively younger than the one considered here. Mehri and Ethiopian are situated on the turning point to this younger language form.

The attempt must now be undertaken to draft a sketch, based on the material so far compiled, of the historical development within the Semito-Hamitic language family. From this material, it should be evident that we are quite justified to begin here with Akkadian.

§85. We find in Akkadian, as previously stated, two manners of conjugation: a suffix conjugation and a prefix conjugation. The first is the "nominal conjugation", the second genuinely "verbal". In contrast to the Young Semitic suffix conjugation, in the Akkadian suffix conjugation, the (indefinite) predicate is conjugated even if it is a substantive. Thus, it has a function which, in the Young Semitic languages, the nominal phrase takes over. It is totally correct, then, if

Ungnad (1926:§26) treats the suffix conjugation not under the verb system, but under the noun system.

In particular, "predicate adjectives" are inflected according to the suffix conjugation. The conjugated adjective presents a particular word category -- standing in the middle between noun and actual verb -- which has not yet met with sufficient consideration in Akkadian grammar. In attributive position, it is an adjective, in predicate a "permansive", to which, however, there is, for the most part, no corresponding inflectional series of the genuine verbal prefix conjugation. The "verbe de qualité" of Kabylie, inflected according to the suffix conjugation, corresponds most exactly.

The suffix conjugation is by its meaning always static; the prefix conjugation, in contrast, always dynamic. It is never permissible to translate a permansive as an action, nor any form of the prefix conjugation as a state. The formula *lū šalmāta* always means approximately: "mayst thou be safe and sound" (state); *lū tašlīm*, in contrast, can signify only: "mayst thou become perfect" (action). Where grammars, dictionaries, or translations offer anything else, they err.

§86. The question arises: Which is older: the use of the suffix conjugation as "nominal conjugation", as in Akkadian -- or as "verbal", as in Arabic? The question is easily and unambiguously to be answered by citation of the "Hamitic" material: we find the suffix conjugation in Kabylie as the preserve of the "verbes de qualité", i.e., as the conjugation of the adjectives; and in Beḍaue there is altogether no distinction between the conjugation of the adjectives and all the other predicates, definite or indefinite, including substantives -- "permansive phrase" and "nominal phrase" have there a complete identity.

Hence it becomes clear that in Beḍaue, too, the suffix conjugation is always static; correspondingly, the prefix conjugation is, of course, also always dynamic. In Beḍaue, too, it is not permissible to translate a form of the prefix conjugation as a state. This may be shown with one irrefutable example.

Beḍaūye, dialect of the Banū Ṣamr (cf. Reinisch 1893.I:30-2)

	<i>wun</i> "big"	(Present)	(Preterite)
sg. 3 m.	(<i>barûs</i>) <i>wûnu</i> "he is big"	(<i>barûs</i>) <i>yunwîn</i> "he becomes big"	(<i>barûs</i>) <i>yuwîn</i> "he became big"
3 f.	(<i>batûs</i>) <i>wîntu</i>	(<i>batûs</i>) <i>tunwîn</i>	(<i>batûs</i>) <i>tuwîn</i>
2 m.	(<i>barûk</i>) <i>wûnuba</i>	(<i>barûk</i>) <i>tunwîna</i>	(<i>barûk</i>) <i>tuwîna</i>
2 f.	(<i>batûk</i>) <i>wîntuwi</i>	(<i>batûk</i>) <i>tunwîni</i>	(<i>batûk</i>) <i>tuwîni</i>
1 c.	(<i>ani</i>) <i>wûnu</i>	(<i>ani</i>) <i>anwîn</i>	(<i>ani</i>) <i>awîn</i>

The agreement with Akkadian is total. Dwelling on our example, we would find corresponding in Akkadian: *šalim* "he is whole, perfect" (*šalmat*, *šalmāta*, *šalmāti*, *šalmāku*); present: *išallim* "he becomes perfect" (*tašallim*, *tašallim*, *tašallimī*, *ašallim*); preterite: *išlim* "he became perfect" (*tašlim*, *tašlim*, *tašlimī*, *ašlim*).

But even a sentence like Beḍ. *batûk mēktwi* "thou (f.) art an ass (a jenny)", from *mêk* "ass", *mêk·t* "she-ass, jenny", has an exact correspondence in Akkad. *atti bēlēti* "thou (f.) art mistress", from *bēlum* "lord", *bēltum* "mistress".

It is not to be assumed that languages so spatially and temporally separated as are West Hamitic, East Hamitic, and (Old) East Semitic have developed along such parallel lines, independent of one another. It is much more readily conceivable that the spatially and temporally close neighbors -- and on the whole relatively little differentiated Young Semitic languages -- have created their perfect, in common development, from the old suffix conjugation.

§87. The question further arises now: how is one to consider the emergence of the Young Semitic perfect from the old permansive? Here, too, Beḍaūye can inform us.

Beḍaūye possesses, exactly like Akkadian, a "perfective" and a "presential" participle:

	Beḍaūye		Akkadian
	<i>k t b</i>	"write"	<i>ṣ b t</i> "seize"
part. perf.	<i>kat(i)ba</i>	"having written"	<i>ṣab(i)tum</i> "having seized"
part. pres.	<i>kāt(i)bi</i>	"writing"	<i>ṣābitum</i> "seizing"

The nominal forms in the two languages correspond completely: *katil* and *kātil*. In both languages, these participles are by their nature also bases of permansive suffix conjugations. In Beḍaūye a nominal sentence like *anī kāt(i)bābu* "I am (a) having written (one)" comes in meaning very close to the genuine verbal form (*anī*) *āktib* "I wrote" and sometimes just about stands as a circumlocution for the latter. In Akkadian, as is known, the part. perf. is the basis of the usual permansive of the verbs of action: *šinništum šī mārī walḏat* "that woman is, was (a) having borne children (one)" = "has, had children" (the Akkadian permansive construction does not come as close in meaning to the preterite of the genuine verbal prefix conjugation as that of Beḍaūye).

The following examples from Beḍaūye are noteworthy: *ūn ū-tāk had-dōs malāl abkābu, tikē nāka idīr* "that man was (a) solitary having seized the desert (ās dwelling) (one) [permansive, suffix conjugation], he killed everyone [preterite, prefix conjugation]"; *mehāy gāwa daʿirābu, fīrāy hōy yenāw* "he was (a) having founded three households (one) [permansive, suffix conjugation]; posterity therefrom he did not obtain [preterite, prefix conjugation]". These constructions, which from the standpoint of Akkadian, too, contain nothing conceptually strange,²⁴ lead, however, quite without doubt, to the use of the Young Semitic perfect. They appear as a germ of that Hebrew construction which begins the sentence with a perfect of the suffix conjugation and then, after "waw consecutivum", continues with an imperfect of the prefix conjugation. Again the Hebrew perfect agrees formally and genetically exactly

²⁴Cf. for instance Sennacherib V 49: *pān mašqē-ya ṣab(i)tū-ma uša-ʿilū kakkī-šun* "they [the enemies] were having occupied my watering place (ones) and sharpened their arms [i.e., offered battle]".

with the permansive of Beḏaḡye -- the Hebrew imperfect with the preterite of Beḏaḡye.

§88. The development should then be reconstructed in the following manner:

- I. The suffix conjugation is actually the conjugation of the predicate nouns, cf. the relationships in Akkadian and Beḏaḡye:

Akkadian:

awēlum šū šarraḡ "that man is a thief"
šinništum šī ul aššat "that woman is not a wife"
kaššapāti "thou (f.) art a witch"

Beḏaḡye:

ū-tak ūn hadʔābu "that man is a sheik" (*hādʔa* "sheik")
batūs tākatu "she is a woman"
barūk hadʔābwa "thou art a sheik"
barākna hadʔābāna "ye are sheiks"
batākna maʔātāna "ye are women" (*maʔa* pl. to *takāt* "woman")

- II. The suffix conjugation is specifically the conjugation of the predicate adjective, cf. the relationships in Akkadian, Beḏaḡye, Kabylic. The usual forms of the adjective are the nominal forms *katal*, *katil*, *katul*, all three of which are of course originally "stative" in meaning. The nominal forms are maintained as adjectives in all the languages.
 -- N.B.: The Egyptian pseudo-participle of the verbs of state is to be classed here.

Akkadian:	<i>ṭāb</i>	"he is good"	(<i>ṭābat</i> , etc.)
	<i>waqar</i>	"he is costly, dear"	(<i>waqrat</i> , etc.)
	<i>šeher</i>	"he is small"	(<i>šeḡret</i> , etc.)
	<i>marīṣ</i>	"he is sick"	(<i>marṣat</i> , etc.)
	<i>maruš</i>	"he is dirty"	(<i>maršat</i> , etc.)

Bedāuye:	<i>hararu</i>	"he is empty"	(<i>harartu</i> , etc.)
	<i>halayu</i>	"he is mad"	(<i>halaytu</i> , etc.)
	<i>naḡiru</i>	"he is sweet"	(<i>naḡirtu</i> , etc.)
		"be little"	<i>šalīktu</i>
	<i>hayisu</i>	"he is better"	(<i>hayistu</i> , etc.)
	<i>delifu</i>	"he is dark, brown"	(<i>deliftu</i> , etc.)
Berber	<i>rezag</i>	"he is bitter"	(<i>rezaget</i> , etc.)
	<i>lekin</i>	"he is sure"	(<i>lekinet</i> , etc.)
	<i>sedid</i>	"he is thin"	(<i>sedidet</i> , etc.)
	<i>derus</i>	"he is little"	(<i>deruset</i> , etc.)
	<i>fesus</i>	"he is light"	(<i>fesuset</i> , etc.)

The Young Semitic neutral perfects of the form *katila* and *katula* ultimately go back to the Old Semitic formations. Neutral *katala* no longer exists in the Young Semitic verbal scheme, except for the neutral nominal form *katal*, cf. for instance Hebr. *zakar* "masculine", *ḡadaš* "new", *ḡakam* "wise", *yaqar* "dear, costly", *laban* "white", etc.

- III. The participles of the verbs of action are inflected, in predicate position, according to the suffix conjugation, cf. the relationships in Akkadian and Bedāuye. The perfective participle Akkad. *kaš(i)dum*, Bed. *kat(i)ba* became exceptionally significant. (N.B.: The Egyptian pseudo-participle of the action verbs is to be classed here.)

It is noteworthy that the Akkadian *kašid* of expressedly active transitive verbs often has passive meaning, but occasionally also active (the passive meaning is likely a consequence of the old neutral character of the form *katil*!). Formally there exists here no distinction: Akkad. *walḡat* could, on the basis of numerous analogies, certainly also mean "she is born" but (in fact) means "she is (a) having borne (one)".²⁵ The correct sense in each case emerges for us from the context; for the ancients, their knowledge of the living language supplied it.

²⁵A distinction in the forms that the past participle takes has to be made in English. German in both cases has *geboren* (translator).

§89. We have already seen that in Beḡaue the predicative use of the perfective participle, thus the permansive (which here in actives always has active meaning too), has just about already become a circumlocution for the preterite of the genuine verbal prefix conjugation. In Young Semitic this step was definitively completed and the preterite of the prefix conjugation was quite ousted by this circumlocution. Even in Mehri, the Young Semitic language which is most closely akin to Akkadian, this innovation, which serves as the criterion for membership in Young Semitic, has already been carried out.

It should now be expected that the result of this alteration, the Young Semitic perfect of the active verbs, would have to come out as **katila*, because the old perfective participle, according to the corresponding facts in Akkadian and Beḡaue, was a nominal form *katil*.

How then are we to explain the emergence of the vocalization *kat-ala*? The scheme of Mehri, with its well-preserved Old Semitic durative present forms, proves that the ousting of the old preterite of the prefix conjugation by the participial circumlocution took place at a time when the old durative present was still intact. Thus, there was added, in due course, a new Young Semitic suffix perfect of the verbs of action as a correlate to the old durative present, which was inherited from the Old Semitic epoch and which had by nature the characteristic vowel *a* in the final syllable. So, it should not be surprising that the new perfect assimilated to the old present -- with which it was now bound up, as it were. A consideration of the Mehri verbal scheme shows how amazingly new perfect and old present harmonize in vocalism! Once *katala* was the perfect form of the active verbs, the genuine old neutral *kat-ala* of the verbs of state became intolerable and was discarded, so that only *katila* and *katula* were left for the perfect of the verbs of state.

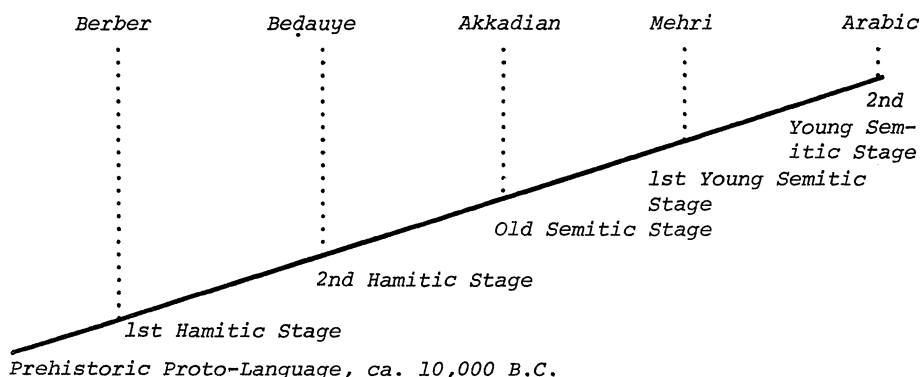
§90. With this, the Young Semitic language type is already completely derived from the Old Semitic. That the Arabic indicative of the imperfect is, in the history of its development, identical to the Mehri present and was only formally assimilated to the jussive-imperative --

which has remained, in all the languages, unaffected by the alteration -- is just about self-evident.

§91. In conclusion, it may be briefly mentioned that the genesis, too, of the Young Semitic language type is naturally to be set in the -- for us -- prehistoric period. We are compelled to gather the development process from the languages which are historically documented. This, however, does not mean that it took place somewhere between Sargon of Akkad and Muḥammad! The determining of the high antiquity of recent "Hamitic" languages should not be understood to the effect that these languages stand even today, as a whole, on a proto-historical level; the archaism of "Hamitic" rests simply upon its failure to have taken part in the typical Young Semitic development, that in all probability took place exclusively on Near Eastern ground. The peculiar, special developments of "Hamitic" must just be deducted, so to speak, before the carrying-out of a comparison with Semitic. Hence we believe that the citation of "Hamitic" has furnished fruitful new viewpoints for the consideration of Semitic, too.

* * *

The five stages of the Semito-Hamitic language development:



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Supplement

While certainly not undertaking any attempt at thoroughness, the translator feels it worthwhile to list here several subsequent articles by Professor Rössler as well as several articles and books by others of outstanding relevance for the subject of the present paper.

- Bynon, J. & Bynon, T., edd. 1975. *Hamito-Semitic*. The Hague.
(See particularly Fenton's remarks on pp. 125 and 492, as well as those of Hetzron on pp. 107 and 127).
- Cohen, M. 1947. *Essai comparatif sur le vocabulaire et la phonétique chamito-sémitique*. Paris.
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- Della Vida, G. L., ed. 1961. *Linguistica semitica: presente e futuro*. Roma. (See particularly the remarks of Ullendorf [pp. 22-23], von Soden [p. 42], Cazelles [p. 111], and Della Vida [pp. 164-65]).
- Diakonoff, I. M. 1965. *Semito-Hamitic Languages: An Essay in Classification*. Moscow.
- Dogolpol'skij, A. B. 1973. *Sravnitel'no-Istoričeskaja Fonetika Kušitskix jazykov*. Moskva.
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- Gordon, C. H. 1957. "Egypto-Semitic," *Revista degli studi orientali* 32 (= *Scritti in onore di G. Furlana*), pp. 269-77.
- Greenberg, J. 1952. "The Afro-Asiatic (Hamito-Semitic) Present," *JAOS* 72.1-9.

The similarity of Greenberg's conclusions (apparently arrived at independently) to those of Rössler is striking.

- Hintze, Fritz. 1979. *Beiträge zur meroitischen Grammatik*. Berlin.
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- Hodge, Carleton. 1976. "Lisramic (Afro-Asiatic): An Overview" in L. Bender, ed., *The non-Semitic Languages of Ethiopia*. East Lansing.
- Johnstone, T. M. 1975. *The Modern South Arabian Languages* (= *Afro-asiatic Linguistics* I/5.93-121). Malibu.
- Johnstone, T. M. 1977. *Ḥarsūsi Lexicon and English-Ḥarsūsi Word-List*. London.

In view of Rössler's work it is, to say the least, peculiar that a reviewer of the two Johnstone books [P. T. Daniels, JNES 39/3.219] can say: "With these two works available, it is no longer [emphasis mine V.A.] acceptable to ignore MSA in any comparative Semitic work."

- Lambdin, T. O. 1978. *Introduction to Classical Ethiopic (Ge'ez)*. Missoula.
- Leslau, Wolf. "Southeast Semitic Cognates to the Akkadian Vocabulary." I. *JAOS* 82.1-4 (1962), II. *JAOS* 84.115-18 (1964), III. *JAOS* 89.18-22 (1969).

The comments of Daniels, cited above as peculiar in view of Rössler's work, are equally peculiar in view of Leslau's work.

- Petráček, Karel. 1972. "Die Grenzen des Semito-hamitischen," *Ar. Or.* 40.
 Rundgren, F. 1959. "Intensiv und Aspektkorrelation: Studien zur äthiopischen und akkadischen Verbalstammbildung," *Uppsala Universitets Årsskrift* 5.
 Siedl, Svitbert H. 1971. *Gedanken zum Tempussystem im hebräischen und akkadischen*. Wiesbaden.
 Wagner, E. 1953. *Syntax der Mehri-Sprache, unter Berücksichtigung auch der anderen neusüdarabischen Sprachen*. Berlin.
 Zaborski, A. 1974. *Studies in Hamito-Semitic I: The Verb in Cushitic*. Cracow.

In addition to the articles cited in footnotes 13 and 14, the translator would like to call the reader's attention to the following works of Prof. Rössler:

1958. "Die Sprache Numidiens," in *Sybaris: Festschrift H. Krahe*. Pp. 94-120. Wiesbaden.
 1961. "Eine bisher unbekannte Tempusform im Althebräischen," *ZDMG* 111.445-51.
 1962. "Die Präfixkonjugation *Qal* der Verba *Iæ Nûn* im Althebräischen und das Problem der sogenannten Tempora," *ZAW* 74.125f.
 1964. "Libysch-Hamitisch-Semitisch," *Oriens* 17.199-216.
 1966. "Das ältere ägyptische Umschreibungssystem für Fremdnamen und seine sprachwissenschaftlichen Lehren," *Hamburger Beiträge zur Afrika-Kunde* 5.218f.
 1977. "Zum althebräischen Tempussystem: Eine morpho-syntaktische Untersuchung," in O. Rössler, ed., *Hebraica*. Berlin.
 1980a. "Libyen von der Cyrenaica bis zur Mauretania Tingitana," *Die Sprachen im römischen Reich der Kaiserzeit (Beihefte der Bonner Jahrbücher 40)*, pp. 267-84.
 1980b. "Die Numider: Herkunft-Schrift-Sprache," in H. G. Horn and Ch. B. Rüger edd., *Die Numider: Reiter und Könige nördlich der Sahara*, pp. 89-97. Köln.

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The phenomenon of Berber verbs which are marked for person with both a preformative and a postformative affix (discussed by Rössler in §45 [p. 711]) finds a formally exact pendant in Canaanite, where there is one occurrence of the phenomenon in the Bible (Is 63:3 [יִגְמְלוּ]), but c. 20 occurrences in the Amarna tablets. The matter is discussed in C. H. Gordon, *Ugaritic Textbook* (Roma, 1965), p. 99, fn. 1, where it forms merely the final paragraph of a footnote notable both for length and fertility.

* * * * *

The translator takes pleasure in expressing his gratitude to his friend, Prof. Carleton Hodge, for his kind consideration in supplying copies of a number of the above cited works. Gratitude is also expressed to Prof. Wolf Leslau for sending offprints of his three articles.

The translator's debt to Prof. Otto Rössler א"יט' / ٱ for years of coöperation and generosity knows no bounds!

SECTION V

CRETAN STUDIES

SANTAS AND KUPAPA ON CRETE

JON-CHRISTIAN BILLIGMEIER
Center for Hellenic Studies

The "London Medical Papyrus", an Egyptian medical text dating to about 1200 B. C., contains among its many spells and incantations the following:

"Spell for the Asiatic disease in the language of Keftiu:
sa-an-tj-ka-pá-pì-wa-ya-ROAD-'a-ya-ma-an-ta-ra-ku-ka-ra'"¹

Keftiu, the Caphtōr of the Bible and Kaptāru of the Akkadians, has traditionally been identified with Crete by most scholars, and evi-

¹The text was first published by W. Wreszinski, *Der Londoner medizinische Papyrus*, (Leipzig: 1912), pp. 151-2, 192. For the date, see p. xiv. The papyrus is British Museum No. 10059.

The Egyptian introduction is translated into English: the transliteration of the charm itself follows the system set forth by William Foxwell Albright, *The Vocalization of the Egyptian Syllabic Orthography*, (New Haven: 1934), pp. 31-2. The sign read here as ROAD is listed as N 49-50 by Samuel Mercer, *Ancient Egyptian Grammar*, (New York: 1961), and as N 30-31 by C. E. Sander-Hansen, *Ägyptische Grammatik*, (Wiesbaden: 1903). The latter translates it as WEG; it is used as a determinative with verbs of travelling. One could argue that N 49-50 is to be read as a syllabic sign related to one of its Egyptian consonantal values, *w*₃, but Albright does not list it in his detailed work. Johannes Friedrich, *Kleinasiatische Sprachdenkmäler*, (Berlin: 1932), p. 146, simply ignores the sign and fails to transliterate it.

In this paper, words in the Egyptian syllabic orthography will appear in italics with dashes between syllables: *sa-an-tj-*. Minoan hieroglyphs will be transliterated with capitals; the syllables divided

dence recently brought to light has strengthened the equation.² When Aegean scripts were all as yet undeciphered, this was our only readable example of a language spoken in Minoan Crete and the Aegean Basin in the times before Greek became everywhere dominant.

Helmuth Theodor Bossert saw in this Keftiu Charm a key that might unlock the mysteries of the scripts and languages of the Minoans.³ He discerned in the first six syllables, *sa-an-tj-ka-pá-pì-*, the divine names Santas and Kupapa, which appear in Hittite texts. Kupapa is a form of the Great Mother Goddess of Anatolia; she appears as Κυβέλη or Κυβήβη among the Greeks and as Cybelē to the Romans.⁴ Since she is often identified with Rhea, who bore Zeus in a cave beneath a Cretan mountain, Crete is not a surprising place to look for her.⁵ Santas, consort of Kybebe-Kupapa in Lydia, was identified by the Hittites with

by dashes: X-SA-TI. Linear A syllabograms will appear transcribed in regular type, separated by dots: ma.ka.ri.te. Linear B will also be written in regular letters, but with dashes between syllables: di-we. The purpose of this differing manner of transcription is to make it immediately clear in what script a word is written without having always to name the writing system along with the word: ku.pa.ja instead of "Linear A ku-pa-ja".

²For Keftiu as Crete and Caphtōr, see J. D. S. Pendlebury, *Journal of Egyptian Archaeology* [JEA], XVI (1930), pp. 75ff. This was disputed *inter alia* by G. A. Wainwright, *JEA* XVII (1931), pp. 26ff, but is now generally accepted. Confirmation seems to come in a list of Aegean place names from a temple of Amenhotep III, in which places like 'a-m-ni-š₃ (Amnisos), ku-nu-š₃ (Knōsos), and ku-tu-na/i-ja (Kudōnia) are associated, though somewhat less than precisely, with Keftiu. See Paul Faure, "Toponymes crète-mycénien dans une liste d'Aménophis III", *Kadmos* (1968), pp. 138-49. For an earlier argument for Keftiu as Crete, see Jean Vercoutter, *L'Égypte et le monde égéen préhellénique. Étude critique des sources égyptiennes*, (Cairo: 1956), especially pp. 116-22, 394-5.

³H. T. Bossert, *Šantaš und Kupapa*, (Leipzig: 1938). Vol. VI, no. 3 of the *Mitteilungen der Altorientalische Gesellschaft*, pp. 5-88.

⁴Pauly-Wissowa, *Real-Encyclopädie der Altertumswissenschaft*, Vol. XI, Band 2, (Stuttgart: 1922), pp. 2250f. See Kybele. Κυβήβη (Hipponax, frg. 121B+) is said to be a Lydian form of the name (Herodotos V 102); the later Κυβέλη (Pindar, frg. 80B+) a Phrygian.

⁵For Rhea = Kybele, cf. Euripides, *Bakkhai* 72-87 (especially ματρός μεγάλος ὄργια Κυβέλας ... φρυγίων ἐξ ὀρέων) and 120-34 (especially ... φρυγίων αὐλῶν πνεύματι, ματρός τε 'Ρέας...).

their "Weather God" and with Herakles by the Greeks and Romans, who knew him as Σάνδας, Σάνδης, Σάνδων, and *Sanda[s]*.⁶

Bossert made the reasonable assumption that, if these deities were indeed worshipped on Crete, their names would appear in Minoan inscriptions. Linear A and B did not seem to offer much promise, for they were obviously day-to-day records of mundane transactions. He turned, therefore, to the Minoan hieroglyphic seals, using values for the signs based on the sounds of similar symbols in the Classical Cypriot syllabary. With this method, he read a reoccurring sign group as X-SA-TI; this he took to be Santas in the dative (cf. Hitt. *Šanti*), preceded by a determinative denoting divinity. The rest of the work he devoted to establishing the existence of the names Santas and Kupapa in Hieroglyphic Hittite.⁷ He went on to make major contributions to the decipherment of the Hittite Hieroglyphs, but did not return to the Aegean scripts to follow up and develop his original insight.

In 1952, Michael Ventris deciphered the Linear B script, which turned out to contain an archaic form of Greek, and a flood of light was cast on Mycenaean and Minoan society and civilization. This enlightenment extended beyond Linear B, for many Linear A signs were so similar to syllabograms in B that it has seemed safe to most researchers to assume a similar value in both.⁸ It is now possible to consider again Helmuth Bossert's idea that Santas and Kupapa should appear in Cretan inscriptions, an idea supported, as we have seen, by the Keftiu Charm and the identification of Kupapa/Kubele with the Cretan Rhea.

The names of both divinities seem to be contained in personal

⁶Konrat Zieger and Walther Sontheimer, edd., *Der Kleine Pauly*, (München: 1972), Vol. 4, pp. 1541-2, s.v. Sandon: Σάνδων, *Lyd. mag.* 3,64; Σάνδας, *Basil. v. Thecl.* 2,15; Σάνδης, *Steph. Byz.* s.v. "Αδανα; Sandan, *Ammianus Marcellinus*, 14,8,3.

⁷Bossert, *Santaš und Kupapa*, pp. 21-88.

⁸David W. Packard, in his excellent book *Minoan Linear A*, (Berkeley: 1974), shows that there is a strong statistical support for this assumption.

names in the Linear A tablets from Hagia Triada and those in Linear B from Knossos. From Knossos we have three men's names consisting of sa-ta (Santas) preceded by a suffix: e-ri-sa-ta (KN Nc 4474); pi-ri-sa-ta (KN U 4478); nu-ni-sa-ta or pa₂-ni-sa-ta (KN As 607).⁹ For Ku-papa, we have a number of haplological (or better haplogical) formations in both A and B. From Hagia Triada come ku.pa (HTW220a/CrV5); ku.pa.ja (HT 116a1); ku.pa₂.na.tu (HT 47a1, 119.3); ku.pa₂.nu (HT 1a3+); and ku.pa₂.we.ja (HT 24a1).¹⁰ At Knossos occur the men's names ka-pa₂-no (KN Df 1219) and ka-pa₂-na-to (KN As 1516); the woman's name ka-pa₂-so-ta (KN Ap 769). Noteworthy is the contrast of the initial syllable between A and B; ku in the former, ka in the latter. The Hagia Triada documents date to well before 1400; those from Knossos in Linear B were written around 1400 or later.¹¹ The ka-pá-pi of the London Medical Papyrus has the correct initial vowel then, for it dates to about 1200,

⁹For this, see Jon-Christian Billigmeier, "An Inquiry into the non-Greek Names on the Linear B Tablets from Knossos and their Relationship to Languages of Asia Minor," *Minos* X, 2 (1969), pp. 177-83).

Note that I transliterate the Linear B sign *56 and its Linear A look-alike L1 by pa₂. Ventris and Chadwick, *Documents in Mycenaean Greek*, (Cambridge: 1956), transliterate *56 by pa₃; pa₂ was reserved for *16. *16 is now read qa, so it seemed logical to read *56 as pa₂. It alternates with pa in a number of places, e.g., pa-ra-ku-ja (KN Ld 575) vs. *56-ra-ku-ja (Ld 587), both in a series of tablets describing textiles.

¹⁰Readings of Linear A tablets according to Louis Godart and Jean-Pierre Olivier, *Recueil des Inscriptions en Linéaire A* [GORILA], (Paris: 1976). No. XXI of the *Etudes Crétoises* of the Ecole Française d'Athènes. Tablets are numbered by the systems of both GORILA and William Brice's *Inscriptions in the Minoan Linear Script of Class A*, (Oxford: 1961), where a difference exists, with the GORILA numeration first, as, for example, HTW 220a/Cr V5.

¹¹The date of the Knossos Linear B archives is the subject of an intense controversy. Leonard Palmer favors a late date (ca. 1200); John Boardman the earlier, traditional one (ca. 1400). Various authors have suggested intermediate dates, for example, Cameron Hawke Smith, "The Knossos Tablets: A Reconsideration," *Kadmos* XIV, 2 (1975), pp. 125-31, suggests 1300 ±50. Palmer and Boardman have presented their contrasting views in a joint volume, *On the Knossos Tablets*, (Oxford: 1963).

when the ku > ka change had already taken place.¹²

In addition, there is a good possibility that the names Santas and Kupapa occur by themselves in Linear A texts from Hagia Triada. This would not be surprising, for in Linear B, offerings to the Olympians and other Greek gods are recorded. Recipients include Zeus, Hera, the Diktaian Zeus, Poseidon, Athena, Artemis, Erinyes, Hermes, the Lady (Potnia), and a host of lesser known deities.¹³ Until now, no divine names have been identified at Hagia Triada, but so similar are the contents and style, that it is highly likely that such do appear. On Hagia Triada tablet 117, there is a subheading sa.ta. It is followed by personal names, as are the main heading ma.ka.ri.te ki.ro u.mi.na.si and the other subheading 79.tu.ne. David Packard raises the possibility that these words designate classes of men and women.¹⁴ Is it not as plausible that they are divinities to whom the individuals named are offering something, as in the Linear B *dosmos* tablets from Pylos, where Poseidon is the main recipient?¹⁵ Ma.ka.ri.te could well be the Minoan word for "gods"; compare Greek μάκαρ, μακάριος "blessed, happy", of obscure and probably non-Greek origin,¹⁶ as well as Luwian and Hieroglyphic Hittite *masana*, Sidetic *masara*, and Lycian *mahana*, all meaning "god" and all, according to Piero Meriggi, going back to the Indo-European etymon for "great".¹⁷ As for 79.tu.ne (the sign 79 is infrequent,

¹²Another example of ku > ka is Linear A ku.ku.da.ra (HT 117a.7, right after sa.ta!) vs. Linear B ku-ka-da-ro (KN Uf 836). Only the second ku is changed to ka.

¹³Ventris and Chadwick, *Documents*, pp. 125-9.

¹⁴Packard, *Minoan*, pp. 52-3.

¹⁵Ventris and Chadwick, *Documents*, pp. 275-84.

¹⁶Hjalmar Frisk, *Griechisches Etymologisches Wörterbuch*, (Heidelberg: 1960), rejecting any connection with μακρός, describes μάκαρ, μακάριος as "ohne Etymologie" and as "ganz isoliert," while J. B. Hofmann, *Etymologisches Wörterbuch des Griechischen*, (München: 1960) considers a link to μακρός possible.

¹⁷*meg(h)- according to Julius Pokorny, *Indogermanisches Etymologisches Wörterbuch*, (Bern: 1959), p. 708. For connection with Hieroglyphic Hittite and Luwian *masana*, see Piero Meriggi, *Hieroglyphisch-Hethitisches Glossar*.

and, lacking any sure parallel in Linear B, is left untransliterated), dare we connect it with the Classical Diktyнна, identified with Artemis, and with Mount Dikte, birthplace and home of Diktaian Zeus?

David Packard stresses the similarity of the headings on four tablets, HT87, 88, 94, and 117.¹⁸ The first is 79.tu.ne ma.ka.ri.te (HT 87), which I would translate tentatively as "to the Diktaian Gods", parallel to Knossian Linear B di-ka-ta-jo di-we (KN Fp 1), "to Diktaian Zeus". Ki.ro is the heading on HT 88 and HT 94; I believe it to be the rough equivalent of Mycenaean Greek *dosmos* "contribution (to a divinity)". The ma.ka.ri.te ki.ro u.mi.na.si of HT 117 will mean "to the gods a contribution(s) at Umina-", with *-si* as the Minoan reflex of the Indo-European locative plural ending (u.mi.na.si might also signify a class of men: ... "from the Umina- people"). sa.ta (Santas) would then receive his separate *dosmoi*, five to be exact, as one of the more important deities, and 79.tu.ne (the Diktaians) two.

On HT 88, one of the two introduced by the heading ki.ro, on line 3, Godard and Olivier now read ku.pa₂.pa₂ instead of ku.pa₂.nu; the new reading is supported by the photographs.¹⁹ This may well be the Goddess herself, but it may also be the name of a person contributing a ki.ro. In the latter case, though, the name will surely be a theophoric based on Kupapa, or even Kupapa given as a name to a woman.²⁰ Either way, Kupapa's presence at Hagia Triada seems to be established.

Taken by itself, any item in this evidence may seem fanciful, but, considered together, all the data make it likely that Santas and Kupapa were worshipped on Crete, and that parents gave their children names containing the names of these two deities. Thus, the insight of Hel-muth Theodor Bossert is vindicated, and the close cultural link between Anatolia and Minoan Crete is observed once again.

¹⁸Packard, *Minoan*, pp. 44-7.

¹⁹Brice, *Inscriptions*, Plate VII-VIIIa; GORILA, Vol. I, pp. 138-9.

²⁰^f*Kubaba* occurs as a woman's name at Ugarit (Frauke Gröndahl, *Die Personnamen der Texte aus Ugarit*, [Roma: 1967], p. 340b). The practice of naming people after divinities is common to many cultures, including

APPENDIX: A PROPOSED TRANSLATION OF THE KEFTIU CHARM

The worship of Santas and Kupapa provides yet another link between the peoples of early Anatolia and Minoan Crete. It has long been supposed, in addition, that at least one of the languages of Crete might have been related to the group of southern Anatolian Indo-European dialects which includes Luwian (often used as a generic name for the southern Anatolian tongues), Hieroglyphic Hittite (also known as Hieroglyphic Luwian), and Lycian. Leonard Palmer has argued for an Anatolian-Minoan relationship, adducing considerable evidence, including frequent pre-Greek placenames in *-(s)sos* and *-nthos* first noted by Paul Kretschmer, and the Linear A divine title *a.sa.sa.ra.me* or *a.sa.sa.ra.ma.na*, which sounds like Luwian for "my lady" (cf. *Ma-donna*).²¹

Since the Keftiu Charm mentions two deities chiefly known from Anatolia, it might be fruitful to examine the incantation to see if sense can be made of it by applying the assumption that it is written in a language related to Luwian. In attempting this, I am aware that there are three uncertainties which give me considerable freedom in my search for meaningful words: (1) uncertainty as to how much Keftian would differ from Luwian; (2) the imperfections of the Egyptian syllabic orthography, which permit varying readings of a few syllables; (3) the absence of word dividers, thus permitting, indeed forcing, the would-be decipherer to divide the words in an arbitrary manner. But there is a check: all of this must make sense in something like Luwian, and the sense must be appropriate to a charm used against disease.

Proceeding to an analysis of each word in turn:

(1) *sa-an-tj-*: *Santi* or *Santa*, dative of the divine name Santas.²² *tj* is read *ta* by Albright; *sa-an-ta-* would be a dative in *-a* as in Ly-

modern India (*Rāma*, *Vishnu*, *Śītā*, *Pārvatī*) and Spanish-speaking countries (*Jesús*, *María*).

²¹Leonard Palmer, *Mycenaeans and Minoans; Aegean Prehistory in the Light of the Linear B Tablets*, 2nd ed., (New York: 1965).

²²I will discuss the etymology of Santas in a future article.

cian. If we read *tj* as *ti* with Johannes Friedrich,²³ then it will resemble datives in *-i* from Luwian and Lycian. That this may be a vocative is also worthy of consideration.

(2) *ka-pá-pi-*: *Kapapi*, dative of Kapapa (post-1400 Cretan form of Kupapa). On account of the final *i*, a vocative seems excluded here, unless the name has become an *-i* stem, or this is a theophoric personal name (the meaning would then be: O Santas, come to Kapapis... vel sim.).

(3) *wa-ya*-ROAD: *waya*. Meriggi lists Hieroglyphic *wa-ṛ* "fahren".²⁴ According to a system I have proposed, this would be read *wa-ya₂*.²⁵ It would seem to be a compound of the adverb *u* and the verb *aya* "make", just as the Cuneiform Hittite cognate *ui₂ia*, *u₂ia* (*wiya*) "hermachen" is formed from *u* "here" and *iya* "make". *waya* is a second person singular imperative. Singular imperatives are used in Indo-European languages with plural referents in some cases; indeed the plural imperatives seem to be the result of innovation in different Indo-European tongues.²⁶ Thus *wa-ya* can refer to both Santas and Kupapa.

The ideogram ROAD or GO is not a sign in the syllabic orthography, but rather a determinative to be taken with *wa-ya* (see footnote 1), serving both to indicate to the Egyptian scribe the meaning of the word and to set it off from what follows. As there are eight syllables preceding the ideogram and nine following, it may function as a sort of caesura as well.

(4) *'a-ya-ma-an-*: *'a-ya* is *aya* "make!", another imperative singular; compare Hieroglyphic Hittite *a-ya-a₂-à* "make!", Luwian and Hieroglyphic *aya-* "make". *-man* is an enclitic meaning "me, my"; compare Hieroglyphic *ma-n.*, beside more usual *-mu*.²⁷ The *ma.na.* of Linear A

²³Friedrich, *Sprachdenkmäler*, p. 146.

²⁴Meriggi, *Glossar*, p. 147.

²⁵Billigmeier, "The Values of Certain Hittite Hieroglyphic Signs," *Journal of Near Eastern Studies*, 35, no. 3 (1976), pp. 189-93.

²⁶Ventris and Chadwick, *Documents*, p. 285.

²⁷Meriggi, *Glossar*, pp. 79-80.

a.sa.sa.ra.ma.na "my Lady" (?) may belong here as well.

(5) *ta-ra-ku-*: *tarkun*, accusative singular of a *-u* stem adjective in apposition to *-man*. *N* when final or before a consonant was weakly pronounced in Anatolian and was sometimes not written, an omission that was universal practice in the Aegean scripts and in the Classical Cypriot syllabary. *tarku-* is related to Hittite *tarhu-ili* "strong", *tarh-* "conquer", and to the divine name *Tarhūnt-* ("Mighty One, Conqueror"). That Anatolian *h* (pronounced something like the *ch* in German *Bach*) should appear as *k* in the charm causes no surprise. *Tarhūnt* himself appears as *Trokōm-*, *Tarkōnd-*, *Trokōn-* in theophoric inscriptions in Greek script from the Classical, Hellenistic, and Roman periods. Then there are the Κήτελοι against whom Neoptolemos fights (*Odyssey* XI 521); they are surely the Hittites.²⁸ There is also the *karna/ēss-* in the place names *Karnēssopolis* (Crete) and *Halikarnassos*, which probably contain Luwian *harnassa* "fortress".

(6) *ka-ra-*: *kar* or *kara*. If the former, it means "heart" and is derived from the Indo-European root **kerd-*, **kṛd-*, compare Hittite *kīr*. If the latter, it would correspond to Hittite *karat-* "Leibesinneres", which may itself be derived from the Indo-European root for "heart". *kara* from *karat* would show the typical Luwian loss of final consonant seen, for example, in *malli* "honey" as compared to Hittite *melit*. In either case the word is neuter, and is an accusative of respect.²⁹

The charm will then read:

Santi, Kapapi, waya! aya-man tarkun kar(a)!

Meaning:

"To Santas, to Kupapa (I pray), come here! Make me strong in my insides/heart!"

²⁸The Hittites called their country *Ḫatti*, whence Hebrew *חַי* /ḥēθ/, whose vowel resembles that in Κήτελοι. The records of the Hittites speak of a great war at this time between themselves and *Aḫḫiṣawa* (= *Akhaiwia* vel sim.), probably representing Mycenaean Greece, land of the Achaeans.

²⁹Accusatives of respect are regularly used with parts of the body in Greek, for example, as in πόδας ὠκὺς 'Ἀχιλλεύς'.

If this be a true reading, and the sense certainly does fit what would be expected in a charm against disease, then it has been established that some Cretans of the Minoan period spoke a language akin to Luwian and its brethren. I do not wish, however, to cast doubt on the work here published by my distinguished fellow laborers in the vineyards of Minos, Cyrus Gordon and Benjamin Schwartz. There were doubtless many languages spoken in Bronze Age Crete, for as Homer tells us:³⁰

Κρήτη τις γὰρ ἔστι μέσῳ ἐνὶ οὔνοπι πόντῳ
καλὴ καὶ πύριρα, περίρρυτος· ἐν δ' ἄνθρωποι
πολλοί, ἀπειρέσιοι, καὶ ἐννήκοντα πόλεις.
ἄλλη δ' ἄλλων γλῶσσα, μεμιγμένη· ἐν μὲν Ἀχαιοί,
ἐν δ' Ἑτεόκρητες μεγαλήτορες, ἐν δὲ Κύδωνες,
Δωριεὲς τε τριχάικες δοῦ τε Πελασγοί.

³⁰*Odyssey* XIX 172-7.

THE SEMITIC LANGUAGE OF MINOAN CRETE

CYRUS H. GORDON
New York University

The corpus of Minoan inscriptions is not among the greatest troves of excavated texts, quantitatively or literarily. So far there are no Minoan epics or historical documents. Instead the Minoan Linear A inscriptions comprise a few hundred small administrative tablets containing little more than proper names, common nouns for commodities, and numerals. Almost the only sentence structure is supplied by a score of short dedicatory inscriptions on votive offerings. It is not even certain that all the so-called Linear A texts are in the same language. However, since the cultic dedications at a wide variety of Cretan sites employ the same formulae, we can at least define Minoan as the one language, in Linear A writing, used at all the Minoan shrines of Crete where such texts have been found so far.

Though the Minoan inscriptions are jejune and formulaic, they are of paramount importance because they record the language of Europe's first great and literate civilization. The Mycenaean patterned their culture after the Minoan model, and expressed their Greek language in a variation of the Minoan script. The textually documented origins of Western Culture on European soil accordingly go back to Minoan Linear A in the Middle Bronze Age.

The Minoan problem has two intertwined factors: script and language. The Linear A and Linear B syllabaries are essentially the same, as indicated by the same proper names that appear in both sets of in-

scriptions.¹ Basically, the pronunciation of the phonetic values of the Linear A signs were provided by the decipherment² of Linear B by Michael Ventris. It was the Minoan language that still required analysis, linguistic identification and translation.

The best key to the Minoan language is the corpus of Eteocretan inscriptions, which, though late (sixth to fourth centuries, B.C.), are written alphabetically and can therefore be pronounced without esoteric knowledge. It has been correctly assumed that the Eteocretans were the remnant of the Minoans and that the Eteocretan inscriptions are written in a late stage of the Minoan language.³ It was clear that although Eteocretan was written in the same alphabet as Greek, it was a totally different language (even as Linear A and B, though essentially the same script, recorded entirely different languages). The corpus of inscribed Eteocretan stones from Praisos, Dreros and Psychro in eastern Crete is the logical starting place for the decipherment of Minoan. For Eteocretan has always been at least pronounceable, whereas Linear A was not, until Ventris' breakthrough in 1952; and, even since then, several Linear A syllabic signs continue to require phonetic clarification.⁴

The farther one goes back in time during the Early Iron and Late and Middle Bronze Ages, the more evidence we find for the presence of Northwest Semites in the Aegean.⁵ The facts of the case are sometimes startling. In a standard corpus of the major Phoenician texts, eight

¹For such fundamentals the reader is referred to my *EML* (= *Evidence for the Minoan Language*, Ventor N.J.[Ventor Publishers, 1966]) and *DME* (= "The Decipherment of Minoan and Eteocretan", *Journal of the Royal Asiatic Society*, 1975, pp. 148-58).

²The achievement of Ventris was a decipherment in the strictest sense of the word: the solution of a hitherto unknown script followed by the translation of the texts. Linear A was no longer a totally unknown script once B was deciphered.

³N. G. L. Hammond, *A History of Greece to 322 B.C.*, 2nd ed., Oxford (Clarendon Press), 1967, pp. 69, 82.

⁴For the most part, such signs probably represent syllables with Semitic consonants not used in Mycenaean Greek.

⁵Genesis 9:27 apparently refers to the Greek take-over from the Semites there.

come from Athens-Piraeus, as against four from Sidon and only one from Tyre!⁶

We have just used the term "Phoenician" in its precise modern and academically approved connotation. The ancient Greeks, however, employed it in a broader sense; for them, "Phoenicians" referred to all varieties of Northwest Semitic merchant mariners who traded throughout the Mediterranean and beyond.

The testimony of the Prologue to *Dictys Cretensis*⁷ is curious. We know the text almost entirely from the Latin translation by Lucius Septimius in the fourth century, A.D. It is a narrative proclaiming itself to be the composition of a Cretan hero, Dictys, who accompanied Idomeneus and Meriones to Troy. It is, of course, a pseudepigraphon. But it happens to be of interest for the Minoan problem.

The Latin translation of *Dictys Cretensis* is prefaced by a Letter (*epistula*) as well as the Prologue. The Letter was composed by Lucius Septimius and addressed to Quintus Aradius Rufinus. It states that Dictys wrote "in Punic letters", and that the tomb of Dictys at Knossos had caved in from age with the result that a container sealed with tin became exposed. Shepherds chanced on the container and hoped to find treasure in it but found only sheets of inscribed lime bark, which they brought to the lord of the place, who was called Praxis. The latter transcribed the letters into Attic, since the language was Greek, and presented the sheets to the Emperor Nero, who rewarded him handsomely. Thus, according to the *epistula*, Lucius Septimius considered the original a Greek work written in Punic script. If we were to defend this opinion, we could point to Greek inscriptions of the Archaic Period, in which the letter-forms still closely resemble the Phoenician letters from which the Greek alphabet was derived.

⁶H. Donner and W. Röllig, *Kanaanäische und aramäische Inschriften*, Wiesbaden(Harrassowitz), 1962, pp. V, 2, 3, 13.

⁷For text, translation and commentary, see Howard J. Marblestone, *Dictys Cretensis: A Study of the Ephemeris Belli Troiani as a Cretan Pseudepigraphon*, Brandeis University Ph.D. dissertation 1970.

The Prologue is not the work of Lucius Septimius, but rather the Prologue to the Greek text that he merely rendered into Latin. For this reason its testimony is older and closer to the facts than the *epistula*. The Prologue relates that Dictys was a Cretan from Knossos, expert in the Phoenician language, both spoken and written. He is represented as a comrade of Idomeneus and Meriones, who commissioned him to write the Annals of the Trojan War, which he set down on lime bark. His Annals, comprising nine volumes on lime bark, were placed in a tin chest and were buried, at his behest, with him.

In the thirteenth year of Nero's reign (A.D. 66) -- so the Prologue continues -- earthquakes at Knossos played havoc with many tombs including that of Dictys with the result that the tin chest was exposed to view. Shepherds saw and took it but, on opening it, found only lime bark in a script unknown to them. So they brought the document to their master, Eupraxides, who, also unfamiliar with the script, offered it to the Roman consular official of the island, Rutilius Rufus. The latter dispatched Eupraxides to Nero with the text. Nero, observing that the letters were Punic, called in experts who interpreted everything. When Nero thus learned that the document was composed by an ancient who had been at Troy, he ordered it to be translated into Greek for his Greek library.

We need not discuss all the discrepancies between the Letter and the Prologue. But we must note that, according to the Prologue, not only the script but also the language of the original was "Punic", a term used interchangeably with "Phoenician". This calls to mind the Eteocretan inscriptions which, as we shall see, are in Northwest Semitic, and recorded in "Phoenician/Punic" letter-forms in the Archaic Period.

Nineteenth century scholars suspected the Annals of Dictys Cretensis to be a fraud, composed by Lucius Septimius in Latin. But the discovery in Egypt of papyri, antedating the lifetime of Lucius Septimius, with parts of the Greek text of Dictys, makes it clear that no fraud was perpetrated by Lucius Septimius. The question accordingly is not

"Was the Latin translated from a Greek text?" but rather "Was the Greek translated from a Semitic original?".

In Hellenistic times there was a literary movement among the Northwest Semites to fill in the gaps of "canonical"⁸ scripture through pseudepigrapha. The documentation is richest among the Jews. The Book of Enoch and the Testaments of the Twelve Patriarchs are cases in point. Such pseudepigrapha are now attested in their Hebrew originals at Qumran in collections copied and assembled in Roman times down to, and a few years after, Nero's reign. But they are compositions of an earlier Hellenistic age. The same movement that produced apocrypha and pseudepigrapha in Jewish circles, extended among the Northwest Semites across "denominational"⁹ lines to the Eteocretans whose "canonical scripture" was not the Bible, but Homeric Epic. Then, as indeed today, the Cretans remained "ethnocentric" vis-à-vis the rest of the Greek World. It was "in character" for the Eteocretans to glorify the Cretan role in the Trojan War.

The Prologue to the Annals of Dictys indicates that Semitic Eteocretan was not only written in Crete (which we know to be a fact from the Eteocretan inscriptions themselves), but that at least into the first century A.D. the nature of Eteocretan was familiar to the intelligentsia of Rome, including the Emperor Nero.

In our time, both Eteocretan and Minoan required linguistic identification. While Minoan is recorded in the problematic Linear A syllabary, Eteocretan is in the familiar alphabet. It makes sense to start with the Eteocretan inscriptions, where at least the script is fully known, and work backwards chronologically into the Minoan texts couched in the more difficult Linear A.

⁸"Canonical" is a descriptive and useful, albeit anachronistic, term. The Old Testament canon was not officially fixed until about A.D. 100. But such official steps only formalized long-held attitudes.

⁹Another descriptive and useful anachronism.

The Cretan town of Praisos¹⁰ had a population divided into two linguistic groups: Greek and Eteocretan. Each group wrote texts in its own language. Since the Greek and the Eteocretan texts came from the same time and place, they overlap in content. For example, a Greek inscription from Praisos contains this adjuration formula: τ[οὺς ἄλλο]υς πολύτας ἐξορκιῶ τοῦ[ς ἐν]δαμόυ[ς μεν...] τοὺς δ'ἀποδάμους "I shall adjure the various citizens, both the natives and the foreigners". This formula employs a merism to express "everybody"; to wit, the pair of antonyms "in-people (= natives)" and "out-people (= foreigners)". Variants of idioms to express "everybody" are common in the inscriptions of the ancient East Mediterranean.¹¹ Two of them occur in Eteocretan texts from Praisos. What we can learn from them is best brought out by aligning them one above the other:

1. μαρ κρκ-ο κλ ες υ ες[]
2. νας ιρ-ο υ κλ ες


The first variant is literally "lord of his fortress, every man and man [of]". The second means "people of his city and every (other) man". The vocabulary, possessive pronominal suffix and syntax are, in their totality, Northwest Semitic. *Mār* "lord" (Aramaic), *kark-* "walled town" (Aramaic; also the first element in *Καρχηδών*, the Greek name for Carthage), *-ô* "his" (as in Hebrew), *kuḷl* "all, every" (attested earlier in Minoan), *'eš* "man" (as in Eshbaal "Man-of-Baal"; the more familiar form is Hebrew *'îš* "man"), *û* "and" (already attested in Minoan), *nâš* "people" (occurs in Arabic *nâs*; and in the Syriac *qrê bar-nâš* "son of mankind" = "a human being"), *'îr* "city" (common in Hebrew; occurs also in Ugaritic). *Mār k(a)r̄k* and *nâš 'îr* are a synonymous pair of compound

¹⁰At Dreros, a similarly mixed Cretan community, were found two Greco-Eteocretan bilingual texts. See also my "Greek and Eteocretan Unilinguals from Praisos and Dreros", *Berytus* 19, 1970, pp. 95-8.

¹¹*DME*, pp. 150-1.

idioms of which all four nouns exist together only in Northwest Semitic.

One of the Eteocretan inscriptions can be translated with reasonable certainty in all its details. It is the Psychro Stone of about 300 B.C. found at the Dictyan Cave where Minoan objects have been recovered showing that the living tradition among the natives that the Cave is Zeus' birthplace, goes back to Minoan times. The Psychro text is important on several counts. It ends with three late forms of Linear A signs, proving that there was continuity from Minoan to Eteocretan at Psychro. Furthermore, the text is a lapidary votive inscription, like so many of the Linear A dedications on stone cult objects. The Psychro Stone carries on the conservative tradition of Minoan *ex voto* formulae. It runs as follows:

1. EΠΙΘΙ
2. ΖΗΘΑΝΘΗ
3. ΕΝΕΤΗ ΠΑΡ ΣΙΦΑΙ
4. 

An idiomatic English translation is: "I, Enetê son of Siphai, have presented this engraved stone". On line 4, the first and third syllabic signs are fairly certain; they are *i* and *ti* respectively. The middle sign could possibly be *pi*, in which case *i-pi-ti* would repeat the word in line 1 (ΕΠΙΘΙ). But if the sign is read *ne*, the resultant reading *i-ne-ti* (= the name of the donor, Enetê) seems more likely. In line 1, the lapidary nature of the text favors our taking ΠΙΘΙ as "engraved stone" (= Phoenician נָחַשׁ "engraved stone"), anticipated by Minoan *pi-te* on a votive stone cult object.¹² The ε- would then be the definite article (*ha-* in Hebrew). Since the definite article comes in with the advent of the Iron Age, it is lacking in Minoan and Ugaritic. In line

¹²*EML*, pp. 13-4.

2, *z* is either the postpositive demonstrative pronoun "this" (written *-z* in Phoenician) or the prepositive relative pronoun "which" (written *z-* in Phoenician). While its position on line 2 might suggest the latter, I prefer the former not so much because there is no room for it on the preceding line in any case, but it is definitely suffixed in Linear A *pi-te-za* "this engraved stone". H0AN0H = יתנתי *yatan-tî* "I have given". For the verb תן "to give (as a votive offering)" and the suffix *-tî* to indicate the 1 sg. pronominal subject with the perfect, we may turn not only to Phoenician but also to Minoan dedicatory formulae.¹³ The interpretation of line 3 we owe to Robert R. Stieglitz ("The Eteocretan Inscription from Psychro", *Kadmos* 15, 1976, pp. 84-6), who recognized that παρ = Aramaic *bar* "son" and that Σιφαυ = a personal name שִׁפְאֻ occurring in 1 Chronicles 20:4.

The Minoan texts are more difficult to interpret than the Eteocretan, largely because, as we have already observed, the Linear A script is unfamiliar to Semitists. Like the Akkadian syllabary, Linear A indicates the vowels, though neither system makes all the consonantal distinctions that we are used to from the alphabet. HT 31¹⁴ is a good starting point for deciphering Minoan Linear A because on HT 31 appear various pictographs of bowls and other vessels accompanied by superscript words spelled out syllabically. Indeed it occurred to early investigators of Linear B that the syllabic superscriptions on HT 31 are the Minoan words for the depicted vessels. Since the HT 31 vessel-names include *su-pu*, *su-pà-la*¹⁵ (cf. קב and לבב in Hebrew and

¹³Note especially *ya-ta-no-* or *a-ta-no-* "he has given" (EML pp. 28, 37).

¹⁴The brief comments on HT 31 by M. Ventris and J. Chadwick, *Documents in Mycenaean Greek*, Cambridge (University Press), 1956, p. 323, led me into the study of Linear A.

¹⁵Linear A does not distinguish *l-* from *r-* syllables. Usually scholars transliterate with *r-*, to the exclusion of *l-*, regardless of etymology. To avoid linguistic confusion, I use *la* instead of *ra* here, because this word for "vessel" appears as *sp^l* in Ugaritic (and similarly in other Semitic languages).

other Semitic languages) and *ka-ro-pà* (cf. *karpu* = a vessel name in Akkadian), this text is a key to the Semitic character of Minoan. HT 31 can be translated to the extent that it is preserved. In the transliteration are code numbers for the vessel-pictograms, while the superscript names are given in the translation.

1. *mi-ti-sa . pu-ko .* Lc45
2. [x]+4 Lc63 10 Lc64 10
3. [] Lc63 10 *sa-ya-ma-na*
4. [] *ki-de-ma-wi-na*
5. ? ? L'9 [x+]³⁰⁰ Lc66 300
6. Lc67 3000

1. Go out from the depot! [x] tri-
2. pods, 10 *qa-pà* vessels, 10 *su-pu* vessels,
3. [], 10 silver pitchers,
4. [x] golden [vases],
5. [x+]³⁰⁰ ?-vessels, 300 *su-pà-la* vessels,
6. 3000 *pa-ta-qe* cups.

Roberta Richard¹⁶ was the first to point out that HT 31 is an order to issue vessels from a repository. The *crux interpretum* that she solved was *pu-ko* = Aramaic 𐤐𐤕 "go out!" (pl.), though she felt constrained to give it a causative meaning (i.e., "bring out!"). However, Minoan usage, in agreement with Ugaritic, permits one to speak of merchandise as "going out" rather than being brought out by somebody.¹⁷ Once the verb was recognized as "to go out", the *mi-* (in the preceding word which opens the tablet) was seen to be the West Semitic

¹⁶Roberta J. Richard, "HT 31 -- An Interpretation", *Kadmos* 13, 1974, pp. 6-8.

¹⁷Cyrus H. Gordon, "Further Notes on the Hagia Triada Tablet No. 31", *Kadmos* 15, 1976, pp. 28-30.

preposition "from". While Ms. Richard has made a case for *ti-sa* "depot, treasury", other possibilities should be kept in mind for the time being. It is unnecessary to belabor the Semitic identifications of the vessel names because the data have long ago been set forth in detail.¹⁸ However, it should be noted that a Minoan magic bowl begins with *a-ga-nu*¹⁹ = 'aggânu "bowl" (in Aramaic, Hebrew, Akkadian and other Semitic dialects).²⁰

כֶּסֶף (cf. *sa-ya-ma-na* in HT 31:3), regardless of origin, means "silver" in some Aramaic texts, while *kidem* (in the next line) may well be the word for "gold" = *ktm* "gold" in Hebrew and Egyptian, and now also in Eblaite *ku₈-tim* "gold". *Ki-de-ma-wi-na* (HT 31:4) has been analyzed as *kidem* "gold" + the adjective suffix *-âwi* + the West Semitic m. pl. suffix *-âna*. Some Semitic vessel names are masculine, while others are feminine. If *say(a)m-* "silver" is followed by the suffix *-âna*, we are confronted with a distinctively Aramaic phenomenon: absolute m. pl. *-âna* versus absolute f. pl. *-âna*.²¹

Minoan words, fixed contextually, can be shown in specific cases to be Semitic. On a wine pithos is inscribed *ya-ne* = *yan* "wine" as in Ugaritic.²² (Note the difference between *yan* and the more familiar *ayn/yên*.) The pithos comes from Knossos where other wine pithoi are inscribed with the WINE ideogram.

Twice the sequence *ku-ni-su* is followed by the WHEAT determinative; therefore compare *kun(n)išu* "emmer wheat" in Akkadian. The cognate occurs in Aramaic *kunneta* (m.) from **kunnit*.²³

¹⁸E.g., *EML* p. 26.

¹⁹Linear A and B do not distinguish *g* from *k*. Our *ga* is usually rendered *ka* in the transliteration. Cognate usage consistently points to *g* in this word.

²⁰See the list of Minoan vessel names in Armas Salonen, *Die Hausgeräte der alten Mesopotamien II: Gefässe*, Helsinki (Finnish Academy of Sciences), 1966, p. 432.

²¹Cyrus H. Gordon, "*Ki-de-ma-wi-na* (HT 31:4)", *Kadmos* 8, 1969, pp. 131-3; and Roberta Richard, *op. cit.*, pp. 66-7.

²²*DME*, pp. 157-8.

²³*EML*, p. 26; *DME*, p. 155.

(Y)a-sa-sa-la-mx occurs repeatedly but only on votive offerings. It may well mean "a votive offering", derived from the root *šlm* which is the base for nouns and verbs having to do with offerings. Moreover it is used in the *š*-conjugation in Ugaritic. Sibilant causatives are found throughout Egypto-Semitic.²⁴

Totals are labeled *ku-lo* "all" not only in the HT corpus but also in the Linear tablets from Kato Zakro.²⁵ This Common Semitic word (*kull-*) occurs also in Eteocretan, as pointed out above.

On a libation table from Palaikastro *le ya-sa-[]* is probably to be restored *le ya-sa-[sa-la-mx]* "for a votive offering" with *le* = West Semitic "to, for" (e.g., Arabic *li-*). This preposition appears in Eteocretan ΔMO corresponding to the dative MATPI "for mother" in a Greco-Eteocretan bilingual from Dreros.

One of the features of Minoan is the different nominal patterns of case endings. For example in HT 31, *su-pu* seems to be the nominative of a normal triptotic in *-u*, while *su-pà-la* looks like what Arabic grammarians call an indeclinable in *-a*. Eblaite is also characterized by such a variety of nominal endings that none of the publications so far make any sense of it. Eblaite and Minoan suggest that in the Early and Middle Bronze Age, there were Semitic dialects with varying categories of nominal inflections. Regularity was imposed by the force of analogy, so that by the time we find Ugaritic in the Late Bronze Age, the triptotic pattern had become the norm.

To recapitulate: The Eteocretan texts are Northwest Semitic with strong Aramaic affinities. There is every reason to accept the long-held view that Minoan is the parent language of Eteocretan. The widely distributed votive texts in Linear A are in the same Semitic language that we may safely regard as the official language of Minoan civiliza-

²⁴*EML*, pp. 28, 57.

²⁵N. Platon and W. C. Brice, *Inscribed Tablets and Pithos in Linear A System from Zakro*, Athens (Library of the Archaeological Society), 1975, p. 73, text 12b:2.

tion. Yet, until all of the Linear A tablets from all the sites where they have been found are interpreted, we must not jump to the conclusion that everything written in Linear A represents the same language. (The same must be said for Linear B inscriptions; those that are not yet intelligible need not be in Mycenaean Greek.) The population of ancient Crete was mixed. Homer (Odyssey 19:175-7) records that it included Achaeans, Eteocretans, Kydonians, Dorians and Pelasgians. Earlier, in Minoan times, there was also a considerable mixture, to judge from the Linear A personal names; in addition to Semitic names, there are also Egyptian, Hurrian and still other names.²⁶ So far, no Greek names have been detected, but there is no telling what future discoveries may bring.

The implications of the linguistic identity of Minoan are far-reaching. Intimate connections between Greece and the Near East are not always due to direct contacts between the two areas in the Iron Age. The Near East had come to Greece and entrenched itself there before and during the Bronze Age, before Greece was Greek. To a great extent, Greece did not have to go to the Near East; the Near East had already come to it.²⁷

* * *

ADDENDUM

The dot inside the theta on line 1 of the Psychro Text has been questioned. This would change the letter to omicron. Until the reading is rechecked on the original stone, judgment must be suspended.

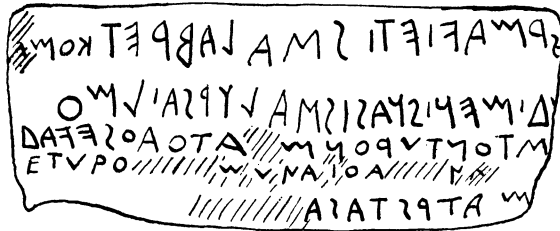
²⁶*EML*, pp. 31-2.

²⁷Cyrus H. Gordon, *The Common Background of Greek and Hebrew Civilizations*, New York(Norton), 1965.

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Figure 1

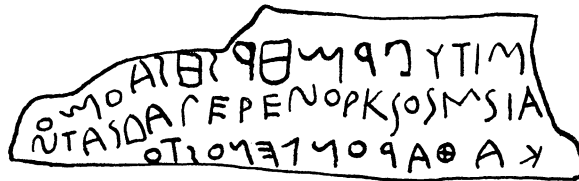
THE FIRST DREROS BILINGUAL



Discussed in *EML*, §§20 and 21. The first two lines are Eteocretan and run retrograde. The last three lines are Greek and are boustrophedon. Note the correspondences IPMAF (= Aramaic רמו "they established, decreed") corresponding to ΕΡΑΔΕ; and ΔΜΟ (cf. Hebrew לאמו "for his mother") corresponding to . . . MATPI . . .

Figure 2

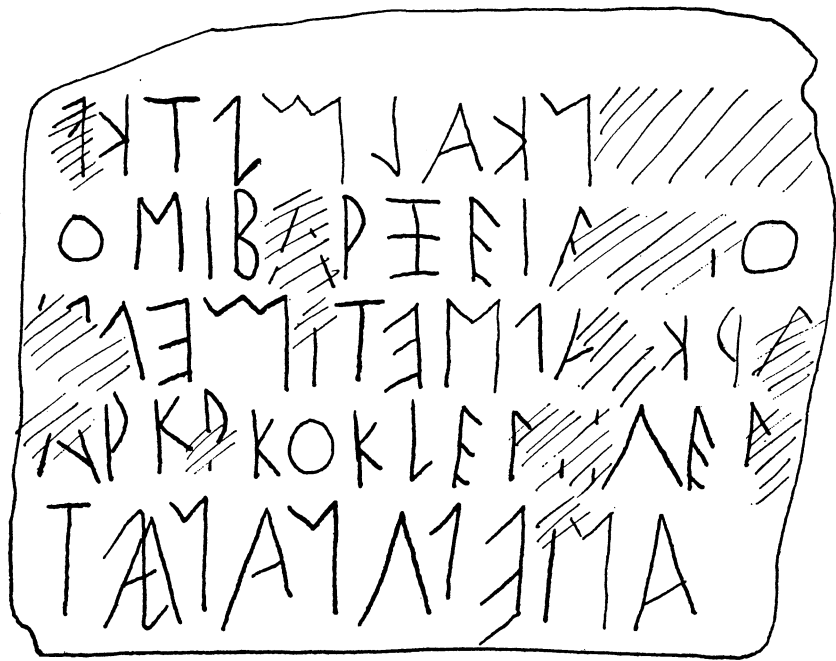
THE SECOND DREROS BILINGUAL



Discussed in *EML*, §§28 and 29. The first line is Eteocretan and ends with IHIA (cf. Hebrew יהיה "it will be") corresponding to the final Greek word RENOITO "let there be".

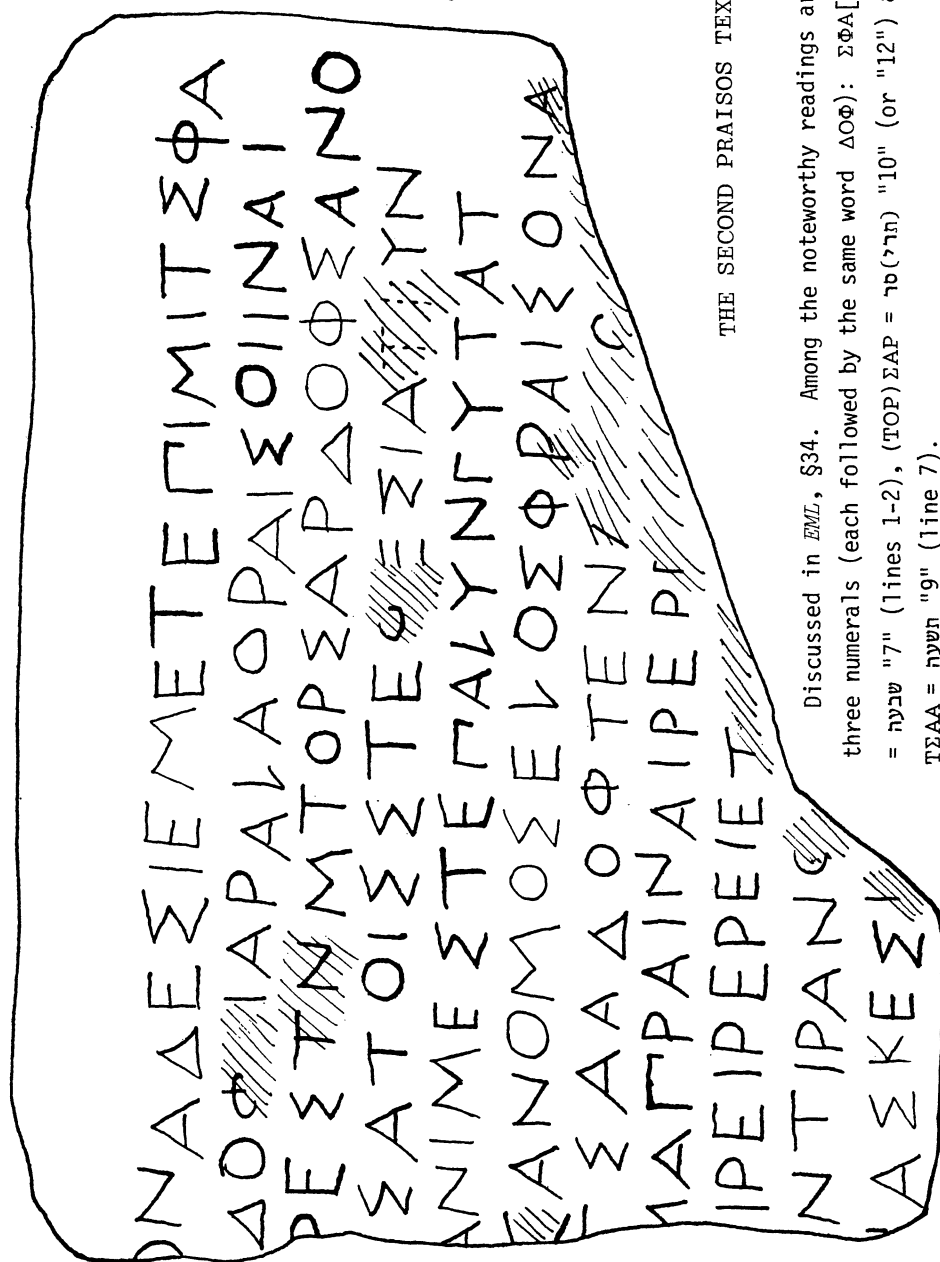
Figure 3

THE EARLY (FIRST) PRAISOS TEXT



Discussed in *EML*, §32. On lines 3-4 of this boustrophedon text note
MAP KPKO KA EΣ Y EΣ "lord of his city, every man and man"

Figure 4



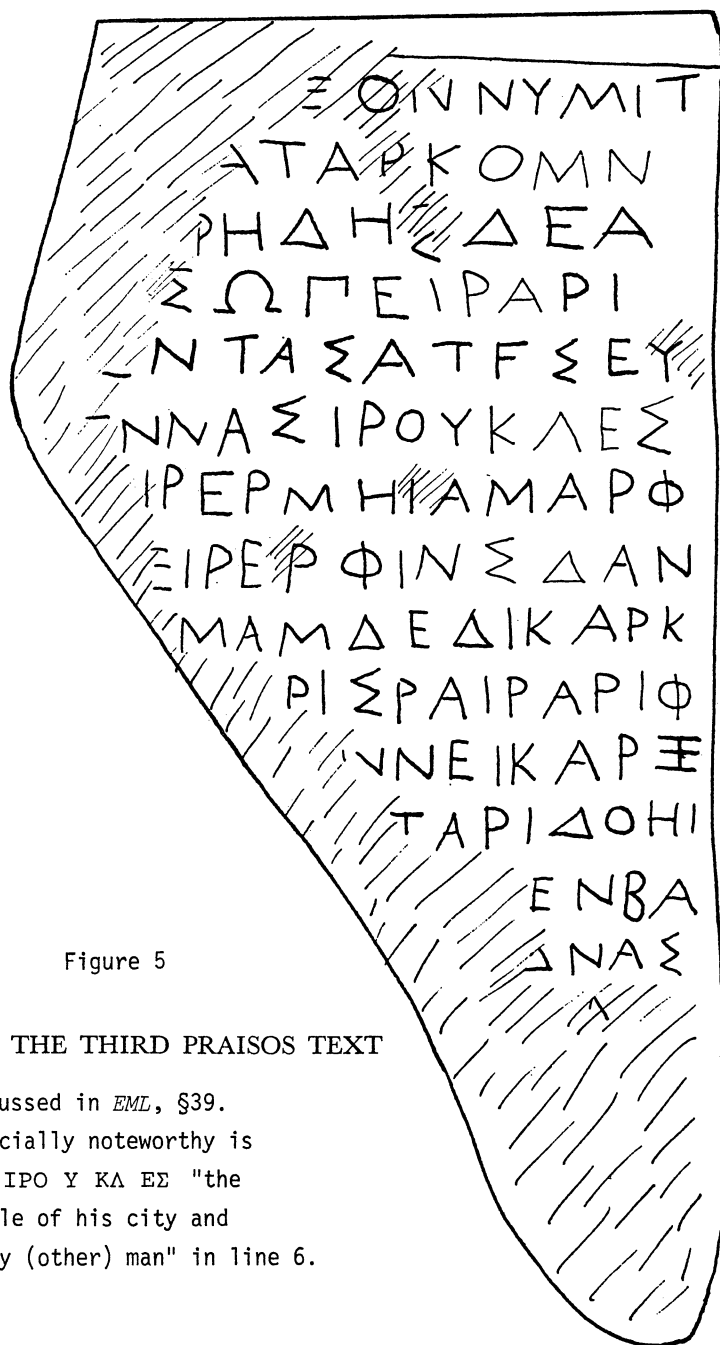


Figure 5

THE THIRD PRAISOS TEXT

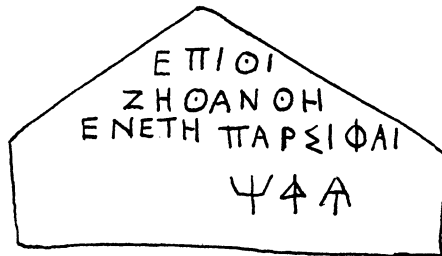
Discussed in *EML*, §39.

Especially noteworthy is

ΝΑΣ ΙΡΟ Υ ΚΑ ΕΣ "the
people of his city and
every (other) man" in line 6.

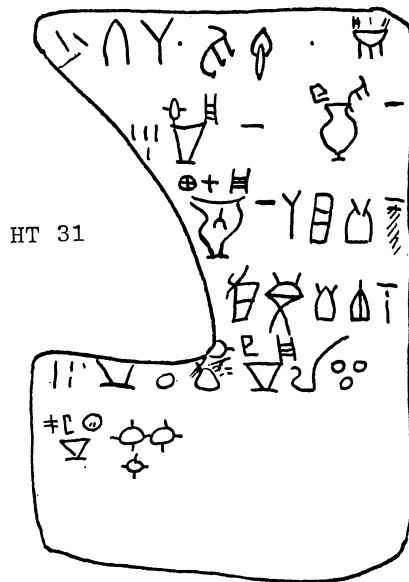
Figure 6

THE PSYCHRO TEXT



Discussed in *EML*, §45. Updated and fully interpreted in the present article.

Figure 7



Discussed in *EML*, §115. Updated and fully interpreted in the present article.

Figure 8

HT 86:a:1-2, b:1-2

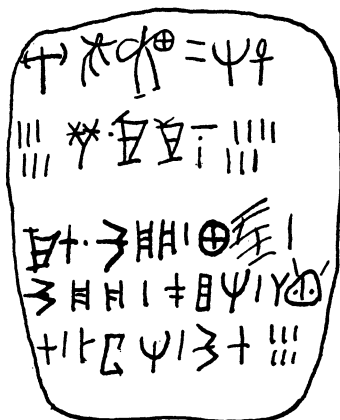


ku-ni-su "emmer wheat"
 followed by
 WHEAT determinative (𐎶)

Discussed in *EML*, §116.

Figure 9

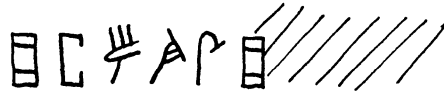
HT 88



Discussed in *EML*, §117. Note that the six entries in lines 3-5 are each followed by a vertical line (= the numeral "1") and are summed up at the end by *ku-lo* "all" = "total" followed by six vertical lines (= "6").

Figure 10

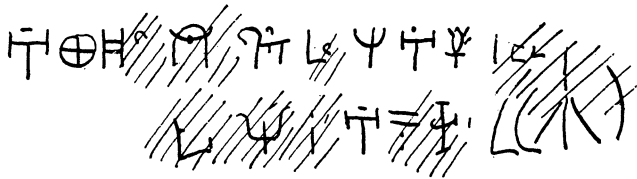
ON LIBATION BOWL FROM APODOULOU (I,14)



Discussed in *EML*, §121. Note the conjunction *u* "and" connecting two verbs beginning with *ya-*: *ya-ta-no-x u ya-* [] "he donated it and []".

Figure 11

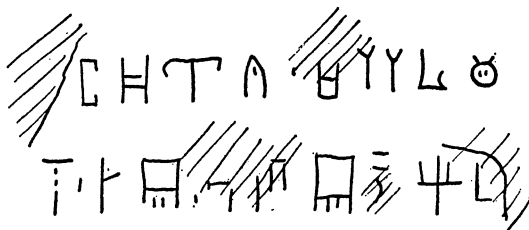
ON MAGIC CUP FROM KNOSSOS (II,2)



Discussed in *EML*, §§119, 156. The opening word *a-ga-nu* means "cup" in a number of Semitic languages including Aramaic. In the cuneiform Aramaic incantation from Uruk, this word is used in a magical context.

Figure 12

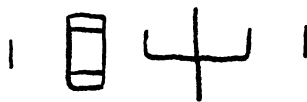
ON LIBATION TABLE FROM KNOSSOS (I,8)



Discussed in *EML*, §122. Note *ta-nu-a-ti ya-sa-sa-la-ma-na* "I set up this votive offering".

Figure 13

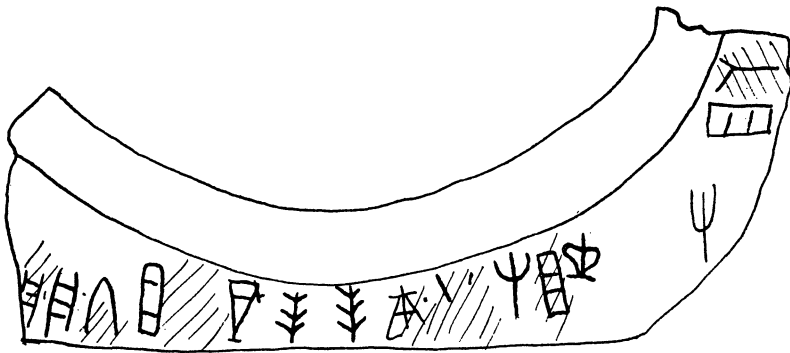
ON WINE PITHOS FROM KNOSSOS (II,3)



Discussed in *EML*, §123. The solitary word is *ya-ne* "wine".

Figure 14

ON LIBATION TABLE FROM PALAIKASTRO (I,3)



Discussed in *EML*, §§125, 161. The last signs preserved (on the reader's right) are: *le ya-sa-*[], probably to be restored *le ya-sa-[sa-la-ma]* "for a votive offering".

Figure 15

PARTIAL GRID OF THE MINOAN SYLLABARY

	A	E	I	O	U
	a 𐀀		i 𐀁		u 𐀂
P	pa 𐀃 pà 𐀄		pi 𐀅		pu 𐀆 (or) 𐀇
T	ta 𐀈 tá 𐀉	te 𐀊	ti 𐀋 (or) 𐀌	tó 𐀍	tu 𐀎 (or) 𐀏
D	da 𐀐	de 𐀑	di 𐀒	dó 𐀓	du 𐀔
K	ka 𐀕	ke 𐀖	ki 𐀗 (or) 𐀘	ko 𐀙	ku 𐀚 (or) 𐀛
Q"	qa 𐀜	qe 𐀝			
M	ma 𐀞		mi 𐀟		mu 𐀠 (or) 𐀡
N	na 𐀢	ne 𐀣 né 𐀤	ni 𐀥	no 𐀦	nu 𐀧
R	ra 𐀨 (or) 𐀩 rá 𐀪	re 𐀫	ri 𐀬	ro 𐀭	ru 𐀮
S	sa 𐀯	se 𐀰			su 𐀱
Z	za 𐀲				
W	wa 𐀳	we 𐀴			
Y	ya 𐀵				

THE PHAISTOS DISK, AGAIN?

BENJAMIN SCHWARTZ
Lincoln University, Emeritus

The rash of recent articles on the Phaistos Disk has made that still unique document Hittite, Northwest Semitic, Atlantean, an astrological text, along with other interpretations, none worthy of serious comment. If anything, these fortify the statement I made some twenty years ago, that all attempts are "fraught with peril to the author's reputation" and almost automatically place that author within the lunatic fringe. Ever since my publications¹ I have deliberately kept aloof from further pronouncements in print, not from the arrogant assumption that mine was the last and definitive word, but rather from the hope that more material might come to light, to prove or disprove my thesis. This has not yet happened, but the spate of current absurdities compels me to reexamine and restate my methods and still tentative conclusions. This is primarily an exercise in methodology. I am, of course, aware that no solutions, suggestions, interpretations, or decipherments can really prove valid until tested by fresh material.


Speculation on the provenience of the disk has ranged from North Africa through the Mediterranean and Asia Minor to the Caucasus. But whether it is archaeologically intrusive is of little significance.

¹"The Phaistos Disk", *JNES* XVIII/2 (April, 1959), pp. 105-12; "The Phaistos Disk II", *JNES* XVIII/3 (July, 1959), pp. 222-26; "Notes and Afterthoughts on the Phaistos Disk Solution", *JNES* XVIII/3 (July, 1959), pp. 227-28.

The intrusive presence of an Egyptian scarab in a Greek site, or of a Mohenjo-Daro seal in a Sumerian site can be equated with identifiable cultures. But here is a carefully inscribed piece of clay, found in a Minoan milieu alongside of clay tablets written in the script dubbed Linear A by Evans. It cannot be equated with any other culture of the ancient world, and its Cretan provenience (which I originally assumed) remains a strong likelihood, even if not essential to the problem. The significant factor is that this comparatively long inscription, obviously not a rations record or tax receipt, was intended for use in Crete. It is this factor which can link its writing with other Cretan scripts.

Now, how do we attack a problem of this kind? Especially when the classical approach, bibliography, is all but worthless? It has become canonical that when both the script and the language of a text are unknown, a decipherment or solution is hopeless. Better stated, perhaps, would be the thesis that solution is hopeless where there is no frame of reference or point of departure. Both these elements I propose to establish.




We can settle, once for all, the direction of writing on the disk. We have here the unchallenged fact that the inscription has been impressed with 45 different stamps or dies. Suppose you had a set of rubber stamps for the purpose, say, of printing your name and address, or a menu, or a roster, or the like. You stamp one letter, then alongside it another, then another and another. Then, through haste, or carelessness, or lack of space, you stamp one letter on part of another. Which comes first? The understamp or the overstamp? Obviously the understamp. We have no less than six clear instances of overstamp (Face A 5, 17, 20, 26, 29; Face B 28). Indeed, the last instance almost obliterates the understamp. There can be no question but that the direction of writing on the surface of the disk is from right to left, outer coil to inner coil. This is so patently visible as to require no further comment, although most of the current "solutions" read from the inner coil to the outer. And yet, we have the curious reinforcement that, at the beginning of both faces of the disk, the ancient scribe etched


in four vertical circles , precisely as does the indicator of many text beginnings in Cypro-Minoan seals and texts. But whatever we do know about Cypro-Minoan writing, it is that its direction is from left to right. Again, the solution leaps to the eye. We have here a matrix for imprinting its text which, by mirror writing, then emerges as left to right, a matrix of moveable type, perhaps for the first time in history.² That the matrix process is not unique is evidenced by the cylinder and stamp seals of the ancient (and contemporary) world, all, in effect, matrices for the imprinting of a text.

The text has been rearranged, mirror writing, in linear form (see fig. 1), and the two sides or faces arbitrarily labeled A and B. There are 241 readable signs. Numbering these in the order of their occurrence, we emerge with 45 different signs (see fig. 2). Too many for a true alphabet and far too few for a Mesopotamian or Egyptian type syllabary, we must be dealing with a Cypro-Minoan type syllabary of consonants plus vowels. Since the direction of the writing has been incontrovertibly resolved, we can take advantage of the group dividers inserted by the ancient scribe (printer) and exploit this circumstance by establishing the initial, medial and final positions of each sign (see fig. 2).

If we know anything at all of Cypro-Minoan writing, it is this. While ideograms (logograms) do occur, they are associated only with numbers, never with phonetics (as, e.g., Hitt. DINGIR-LIM-iš). Thus, our helmeted warrior (no. 1, fig. 2) is neither an ideogram nor a determinative. The sign occurs 19 times (highest frequency for this text),











²Duhoux, *Le Disque de Phaistos*, Louvain, 1977, p. 31: "Schwartz a supposé que le disque était une matrice... Le raisonnement serait impécable si le disque était vraiment une matrice, mais ce ne semble justement pas être le cas, à cause de sa surface irrégulière, de sa dizaine de corrections, dont certaines ont été maladroitement effectuées, et de l'inégalité d'impression de ces signes. L'idée ne peut donc pas être retenue". Duhoux forgets, or perhaps does not realize, that precisely the same exceptions (irregularity, corrections, alignment) would apply to the unquestioned use of such matrices as the Mesopotamian cylinder and stamp seals.

and always in initial position. In Linear A there is just one sign of highest frequency restricted to initial position, and in Linear B that same sign is preponderantly in initial position, the sign . Variations of this sign actually appear as . This represents to me a linear continuation of the pictograph, not the double-axe continuant elsewhere suggested. Fig. 3 shows the frequency curves of our crested warrior and  to be a virtual overlay. It is, therefore, safe to assume that the disk sign has the same phonetic value of the linear continuants, the value α .

Here, then, is both a frame of reference and point of departure. The frame is Cypro-Minoan writing; the point of departure is the equation of our crested warrior with . Now, in a cryptanalytic problem a single sure entry breaks the code. This does not mean that the code can be read; but the problem becomes one of decipherment. The disk is not a cryptanalytic problem, since the ancient scribe (printer) was careful to indicate the beginnings and ends of groups, as well as the beginning of the text itself. But the methods of cryptanalysis, particularly frequency counts and distribution curves, can be exploited for this type of problem, even as Ventris did for Linear B. So, our single sure entry does not mean that we can proceed to decipher the inscription, nor does it tell us in what language the text was written. But it does mean that a genetic relationship exists between the script of the disk and that of the linear tablets. Let us, therefore, review the top frequencies of the signs on the disk and those of Linear B and A.

	Phaistos Disk	Linear B	Linear A
1.	19-0-0 = 19	α 440-33-23 = 496	na 4-13-28 = 45
10.	4-6-8 = 18	ro 12-189-271 = 472	da 24-12-9 = 45
2.	0-13-4 = 17	yo 5-106-359 = 470	no 19-9-16 = 44
14.	5-8-2 = 15	ra 63-274-55 = 392	α 43-0-0 = 43
5.	0-7-5 = 12	e 276-73-39 = 388	ti 6-13-23 = 42

4.	1-3-7 = 11	<i>to</i> 51-139-184 = 374	<i>re</i> 5-12-22 = 39
8.	8-3-0 = 11	<i>te</i> 63-221-75 = 359	<i>ta</i> 9-13-17 = 39
20.	0-4-7 = 11	<i>ta</i> 62-196-85 = 343	<i>ra</i> 4-14-20 = 38
24.	1-9-1 = 11	<i>ya</i> 16-149-173 = 338	<i>ki</i> 16-8-13 = 37
28.	0-4-3 = 7	<i>re</i> 34-258-42 = 334	<i>ya</i> 10-9-17 = 36
3.	2-3-1 = 6	<i>ko</i> 110-133-82 = 325	<i>ka</i> 23-6-6 = 35
6.	1-4-1 = 6	<i>u</i> 40-152-119 = 311	<i>sa</i> 21-5-8 = 34
7.	0-5-1 = 6	<i>o</i> 165-48-96 = 309	<i>ru</i> 8-9-16 = 33
9.	1-5-0 = 6	<i>ka</i> 125-138-39 = 302	<i>ku</i> 15-12-5 = 32
13.	2-1-3 = 6	<i>ri</i> 22-256-13 = 291	<i>du</i> 11-11-9 = 31
19.	0-3-3 = 6	<i>ke</i> 84-164-24 = 272	<i>ma</i> 13-6-10 = 29
36.	4-1-0 = 5	<i>we</i> 32-126-109 = 267	<i>ne</i> 9-7-13 = 29
16.	0-1-4 = 5	<i>no</i> 8-85-151 = 244	<i>tu</i> 10-4-14 = 28
18.	2-3-0 = 5	<i>i</i> 83-103-35 = 221	<i>di</i> 11-8-9 = 28

But before we begin to compare frequencies, let us examine some of the other direct continuants from pictograph to linear signs. Thus, for example, the linear sign *wa*  (variant ) has been derived from a house or granary; our no. 6 is actually such a structure, and comparing the frequencies and distribution curve in fig. 3, we have another virtual overlay. The same is true for  (fig tree) and our no. 43; the hand or cestus  and our no. 16; the *we*  and our no. 19. Furthermore, the linear continuant of *qe*  from our shield, no. 2; *ku*  (flying bird) and our no. 18; *ru*  (crocus) and our no. 26 all leap to the eye. This is also unquestionably true for signs of rare occurrence in both scripts: linear *tá* is exactly the same as our no. 40 (both )); as are also *rá*  and our no. 9. Coincidence can safely be ruled out and the genetic relationship between the scripts is confirmed.

With which of the linear scripts is the language of the disk to be equated? There is, of course, no immediate compulsion to associate it with the language of either A or B or any other. Without regard, therefore, for the language of the disk inscription, let us see whether fur-






ther equations can be evolved between the linear values and the signs of the disk.

Consulting figs. 2 and 3, it will be noted that our no. 10, the second highest frequency on the disk, has a distribution of 4-6-8 = 18. Only the linear value $\overline{\text{T}}$ *to* fits this distribution curve among the high-frequency signs of the disk; let us therefore assign the value *to* to our no. 10. Our no. 8 has a distribution of 8-3-0 = 11. On Face A 4 of the disk (fig. 1) we have initial reduplication of the sign; on Face B 21 and B 26 this sign occurs in a sequence of four signs preceded by sign no. 36, whereas the same sequence without no. 36 occurs on Face B 18. Sign no. 36 can thus be considered a syntactic or morphological element in this sequence. In other words, except for the instance of initial reduplication on A 4, sign no. 8 stands in initial position, like sign no. 1, our initial entry. Its high frequency and position guarantee the phonetic nature of the sign as a vowel. Equation of the sign with Linear B *e* yields still another overlay (see fig. 3).


An entire group is now readable. The syllabary thus far developed gives a reading for Face A 3 and B 20 of *e-ra-to*. But this is identical with the name of one of the nine towns in the Linear B Mycenaean texts! Dramatic support of this reading comes from the group immediately preceding the town name, A 2 *wa-7-qe*. The *-qe*, of course, is the familiar Indo-European enclitic connective "and", cf. Lat. *-que*, Skt. *-ca*, etc. No. 7 suggests the linear continuant *tu*, and Face A 2, 3 now reads *wa-tu-qe e-ra-to* (plus thorn). But *wa-tu* /*wastu*/ also appears in the Linear B Mycenaean texts as the equivalent of Gk. ἑστυ (ἑστυ) and the two groups translate to "and the town Erato".




The question of language already seems to answer itself. A town name by itself may be inconclusive, but when associated with a common Indo-European enclitic and a pre-Homeric Greek word, the presumption of identification with the language of Linear B mounts appreciably.


To continue. Sign no. 4 has a distribution of 1-3-7 = 11. Of the top Linear B frequencies only \dagger *ro* meets the distribution require-

ments. It will again be noted that the linear sign can easily be a modification or conventionalization of the pictograph (see fig. 2). Further matching of frequencies and distribution curves, with and/or without consideration of linear continuants of pictographs, yield the equations of no. 14 = *ka* , no. 24 = *ri* , no. 43 = *ni* , no. 17 = *de* , no. 31 = *se* .


Of the disk high-frequency signs only nos. 5 and 20 are still unresolved, the former with a distribution of 0-7-5 = 12, the latter with 0-4-7 = 11. Face A 2 reads *wa-tu-qe* "and the town" with which Face B 10 *to wa-tu-20* is certainly to be equated. So, too, Face A 9 and 25 *ku-we-20* beside *ku-we-qe*, Face A 6 and B 2 *ka-ra-to-qe* beside *ka-ra-to-20*, and finally Face B 5 and 13 where *qe* and *20* again alternate in final position. It is clear that the two signs are syntactically equivalent in this position and that *20* is also, therefore, an enclitic connective. It is possible, of course, that the two signs are homophones of the same phonetic value, but the linear variants of *te* argue for a linear continuant from the pictograph. Furthermore, Linear B Mycenaean has an enclitic *-de* (cf. Ventris-Chadwick, first ed., p. 47) which, with *-qe*, is the only other enclitic connective so far determined in that language. The phonetic value *te/de* will therefore be assigned to no. 20.

The highest Linear B frequency with which no. 5 can be equated is *yo* . While at first glance the final-position frequencies of the disk and linear signs are at variance, it must be remembered that the linear texts are almost exclusively inventories, and these exhibit a disproportionately high incidence of words in the genitive singular, < IE **-syo*. Comparison of initial and medial frequencies establish the equation no. 5 = *yo*.

Three medium-frequency signs still lend themselves to similar analysis. The distribution patterns of signs 3, 17, and 31 equate themselves with Linear B  *ma*,  *de*, and  *se* respectively. No. 17 (the bare-breasted woman in profile) is particularly noteworthy because the linear continuant is also used as a logogram for "woman".

The linear development of *se* from the pictograph is also highly probable. Finally, linear *mu*  is readily derived from a ram's head, with which, of course, cf. sign no. 45.


Of the 45 signs on the disk, the following are now identified: 1 *a*, 2 *qe*, 3 *ma*, 4 *ro*, 5 *yo*, 6 *wa*, 7 *tu*, 8 *e*, 9 *ra*, 10 *to*, 14 *ka*, 16 *no*, 17 *de*, 18 *ku*, 19 *we*, 20 *te*, 24 *ri*, 31 *se*, 40 *tá*, 43 *ni*, 45 *mu*.

The time has now come to test these values and to see whether any additional values accrue from the text. The first two groups on Face A read *a-qe ma-ro-yo* (plus thorn) *wa-tu-qe* followed by the town name *e-ra-to* (plus thorn) followed by the fourth group *e-e-11*. The first group, followed as it is by *wa-tu-qe* "and the town", is also clearly a place name (*a-qe* will shortly be discussed), followed by another place name. Sign no. 11 recalls linear variants of  *si*, giving a reading for the fourth group *e-e-si*. But this is precisely the present third plural of the verb "to be" established by Ventris-Chadwick for Mycenaean. A plural verb for a compound subject! The phonetic value of the sign is dramatically verified by comparison of Face B 3 with B 29, where the sign alternates with *se*, e.g. *a-se-ri-à(s)* beside *e-si-ri-á* (on *á* see below).

Face A 14 repeated A 20 reads *a-ka-28-29-ri-yo*. The Mycenaean place name *á-ka-á-ki-ri-yo* leaps to the eye and gives us two more values, 28 = *á* and 29 = *ki*. It will be noted, incidentally, that despite the paucity of the Phaistos Disk syllabary, homophones cannot be avoided. These (following the standard practice in cuneiform and other syllabaries) will be recorded with an acute accent for a second homophonic occurrence and by a grave, if needed, for a third. Thus the alternation of signs 8 and 13 on Face B 5 and B 13 leads to the establishment of no. 13 = *é*.

We must now digress to discuss the two signs *a-qe*, occurring 13 times. The question may very properly be raised: does this not distort the frequency analysis of sign no. 1, the crested warrior, the initial entry into the code of the disk? If we were to count all 13 occurrences of the group as one, we would be left with a total frequen-

cy for sign no. 1 of 8, still a high Phaistos Disk frequency. Even more significant, however, is the fact that the distribution curve remains completely unchanged. The frequency analysis, therefore, remains unaffected and the phonetic value of the signs is valid. What does remain is the meaning of *a-qe*. Since in every instance it occurs before or refers to a place name, the context meaning can be equated with Myc. *a-ke-e* "sacred precinct" (see Ventris-Chadwick, 1st ed., p. 386 and note the reference to Hesychius), hence indicating the kind of place to which reference is made. By the time of our text this collocation seems to have already sunk to little more than prothetic significance, like, e.g., *St. John*. I therefore propose to translate the term as "sacred place" or "precinct".

It has already been noted that no. 36 is present on Face B 21 and B 26 as against Face B 18. Interpretation as a connective fits all occurrences of the sign on this tablet; Face B 1 *a-qe* 36 *tu-to* (the latter, of course, = Gk. τοῦτο) "a precinct is this (town) also"; Face B 4, 36 *á-ka* (the place name is again known from the Mycenaean texts); Face B 9, 36 *se-42-á* "and Se---a", another place name in a sequence. The value *ke* will thus be assigned to no. 36, cf. Gk. καί. No. 25 (rosetta) appears on Face B 12 *ka-á-25-ro* as a descriptive epithet of a precinct after the phrase *to wa-tu-te a-we-ni-tu* "and the town Awenitu (is) ----", in B 10-11. Gk. καθαρὸν leaps to the eye as a peculiarly appropriate description of a sacred place, and the value *ta* will accordingly be assigned to no. 25. Contrasted with the town Awenitu is the town Ewa(wa)ki on Face B 13, cf. B 5 (the value *kí* for no. 38 is guaranteed by the linear stylized pitcher ). The repetition of *wa* on Face B 13 may well be a scribal (printer's) error. Face B 10 through 14 can now be translated "and the town Awenitu is pure, (but) Ewaki is 39-33-yo". The contrast of "pure" and "impure" readily suggests itself. From this semantic concept we suggest that the word here may be *mi-ya-yo* from the root seen in Gk. μιάνω "stain, defile" and μιαιφονός literally "stained with murder". From this reading we obtain the value *ya* for no. 33 and *mi* for no. 39.

We now arrive at a grid (see fig. 4) and syllabary of some 40 signs. All of this began with the general premise that the disk is Cretan, or intended for Cretan usage, hence that its script could be Cypro-Minoan, and that Cypro-Minoan writing forms a continuum from pictograph to linear; extension of that premise to the general Cypro-Minoan area is highly probable. Three procedures, often concurrent, have entered our analysis: (1) Direct continuation, recognizable as such, from pictograph to linear; (2) comparison of frequencies, and more significantly, the frequency or distribution curves; and (3) context, this latter not only to test the validity of the values assigned to the signs, but also to recover additional values. Since the text is comparatively brief and the system of writing still unique, exclusive reliance upon steps 1 and/or 2 would be suspect. When, however, either or both are confirmed by 3 (context), then and then only can a possible decipherment be hoped for.

Two necessary digressions before proceeding to that attempted decipherment. The first is phonological. In the vocalism, like Mycenaean, the *e* syllables can be read as *i* and vice versa; note especially the alternation of *se* and *si* above. The same must be true of *u* and *o* syllables.³ No orthographic distinction is made between *r* and *l* or between voiced and voiceless stops, again in common with the Mycenaean; but signs 2 and 17 will be recorded as *qe* and *de* respectively, especially since in the dental series Linear B does make that apparent distinction.

Secondly, the thorn occurs 16 times (Face A 1, 2, 15, 16, 19, 21, 22, 27; Face B 3, 6, 18, 20, 21, 24, 26, 30). Comparisons have been drawn with the Hieroglyphic Hittite (Luwian) thorn and the Devanagari virama. But aside from the purely physical resemblance these comparisons are invalid, since the Phaistos Disk thorn is restricted to final position, whereas the other two can occur in any position. But on Face

³Note A 11 : A 13, *ro-me* : *ru-mé*.

A 16, 19, and 22 we have the familiar Indo-European relative pronoun⁴ in the nominative, and we can transcribe the Phaistos Disk thorn as a generalized (perhaps not even pronounced) final *s* or (*s*).

We can, at least partially, read the inscription as:

A 1. *a-qe ma-ro-yo(s)* / 2. *wa-tu-qe* / 3. *e-ra-to(s)* / 4. *e-e-si* /
 5. *a-qe wo-tu-é* / 6. *ka-ra-to-qe* / 7. *ka-15-no* / 8. *a-qe de-yo-[]* /
 9. *ku-we-te* / 10. *a-qe me-sa-te* / 11. *ro-me tu-to* / 12. *a-qe*
pi-ri-ta / 13. *ru-mé* / 14. *a-ka-á-ki-ri-yo* / 15. *30-ro(s)* / 16.
a-qe ku-we(s) / 17. *a-qe ka-ka-te-se-32* / 18. *é-ri* / 19. *a-qe*
ku-we(s) / 20. *a-ka-á-ki-ri-yo* / 21. *30-ro(s)* / 22. *a-qe ku-we(s)*
 / 23. *a-qe ka-ya-pi-yo-ka* / 24. *de-yo-pe-sa* / 25. *ku-we-qe* / 26.
a-qe ma-ro / 27. *ri-sa-te(s)* / 28. *ki-rí-ta* / 29. *a-qe ka-ka-te-*
se-32 / 30. *ma-ro* / 31. *ki-rí-ta*.

B 1. *a-qe ke tu-to* / 2. *ka-ra-to-te* / 3. *a-se-ri-à(s)* / 4. *ke á-ka*
 / 5. *é-wa-kl-qe* / 6. *mi-ri-yo-tá(s)* / 7. *ma-ro-ru-é* / 8. *41-to-ma-*
ro-yo / 9. *ke se-42-á* / 10. *to wa-tu-te* / 11. *a-we-ni-tu* / 12.
ka-á-ta-ro / 13. *e-wa-wa-kl-te* / 14. *mi-ya-yo* / 15. *e-é-ro* / 16.
de-te pi-ru-é / 17. *a-ti-ka-ro* / 18. *e-ni-to-no(s)* / 19. *e-no-ma* /
 20. *e-ra-to(s)* / 21. *ke e-ni-to-no(s)* / 22. *ka-si-ri-á* / 23. *to-*
yo-te / 24. *to-ra-to(s)* / 25. *to-ri-yo-wa* / 26. *ke e-ni-to-no(s)* /
 27. *ti-mu-ru-yo-to* / 28. *a-de te-ri-to* / 29. *e-si-ri-á* / 30. *ra-*
to(s).

And the suggested partial translation:

⁴The form of the relative pronoun *ku-we(s)* is certainly not Classical Greek, but neither is the undoubted enclitic *-qe*. The relative pronoun in Mycenaean has not yet been determined (cf. the discussion of the possibility of a relative from IE **yo-* in Villborg, *A Tentative Grammar of Mycenaean Greek*, Göteborg, 1960, pp. 101 and 125. What I am suggesting is that the Phaistos Disk dialect had a relative from IE

- A. The precinct Maroyo and the town Erato are true precincts. And potent is Ka--no, a precinct of Zeus(). And which (is) the precinct Mesate, for pestilence (is) this. The precinct Philista is for pestilence. Akaakiriyo (is) ---. The precinct which (is) the precinct Khalkathese-- (is) for Hera. The precinct which (is) Akaakiriyo (is) ---. The precinct which (is) the precinct of Kayapi-district (is) a divine sight. And the precinct which (is) Maro (is) less (?) choice, (while) the precinct Khalkathese-- (is) more choice.
- B. A precinct (is) this (town) also. And potent (are) Aseria and Aka and Ewaki, Miriyota, Maroruwe, --tomaroyo, and Se--a. And this town Awenitu (is) pure, but⁵ Ewaki (is) polluted. The temple situated opposite Pirue is Enitono by name. (There are three temples) Erato, and Enitono, and A/Esiria.⁶ And this very Erato (is) for bull rites; and Enitono (is) for appeasement; and for freedom from care, the third (is) gay Esiria.

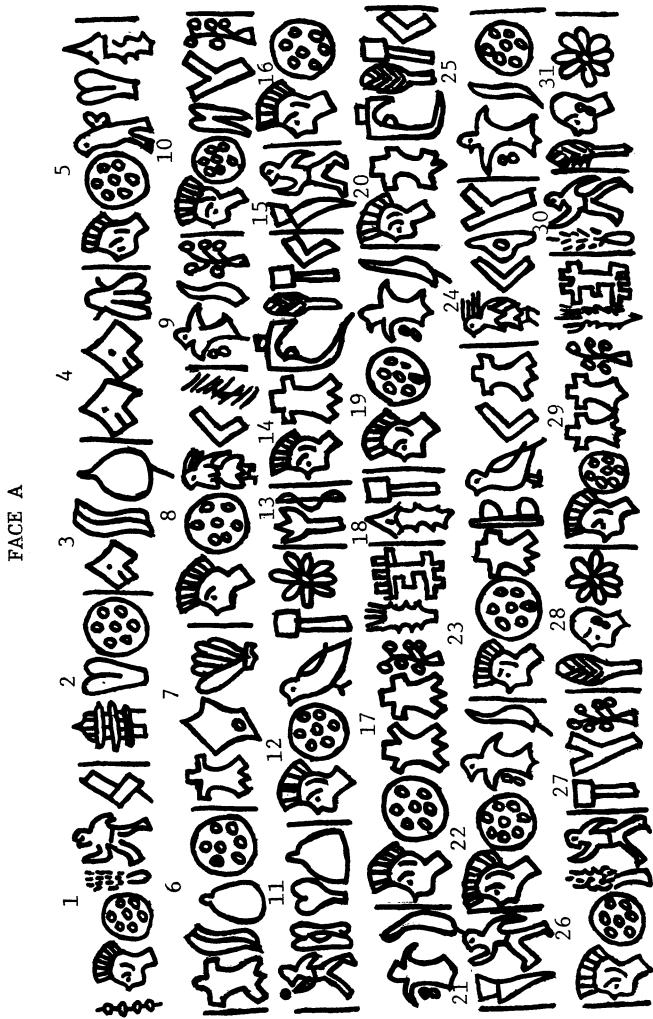
CONCLUSIONS:

1. The Phaistos Disk is Cretan, and/or intended as a Baedeker's Guide to some of the holy places in Crete.
2. The Phaistos Disk is a matrix of movable type for imprinting its text.
3. The Phaistos Disk is very probably the precursor of the Cypro-Minoan linear scripts.
4. The language of the Phaistos Disk is Mycenaean Greek.
5. The interpretation suggested here will prove valid only when and if additional material is unearthed.

*q^ui- like Latin and Hittite (cf. Sturtevant, "Relatives in Indo-European and Hittite", in Hatfield, Leopold, and Zieglschmid, eds., *Curme Volume of Linguistic Studies*, Baltimore, 1930, particularly pp. 148-49).

⁵This -te alone of the four occurrences (A 9, B 2, B 10, B 13) seems to serve an adversative function.

⁶Ke + Asiria (cf. B 3) or Esiria (cf. B 29), realized in sandhi as Kasiria and hence written syllabically ka-si-ri-á.
















































My wife, Sarah Elizabeth Schwartz, is responsible for the drawings for this article.

FACE B



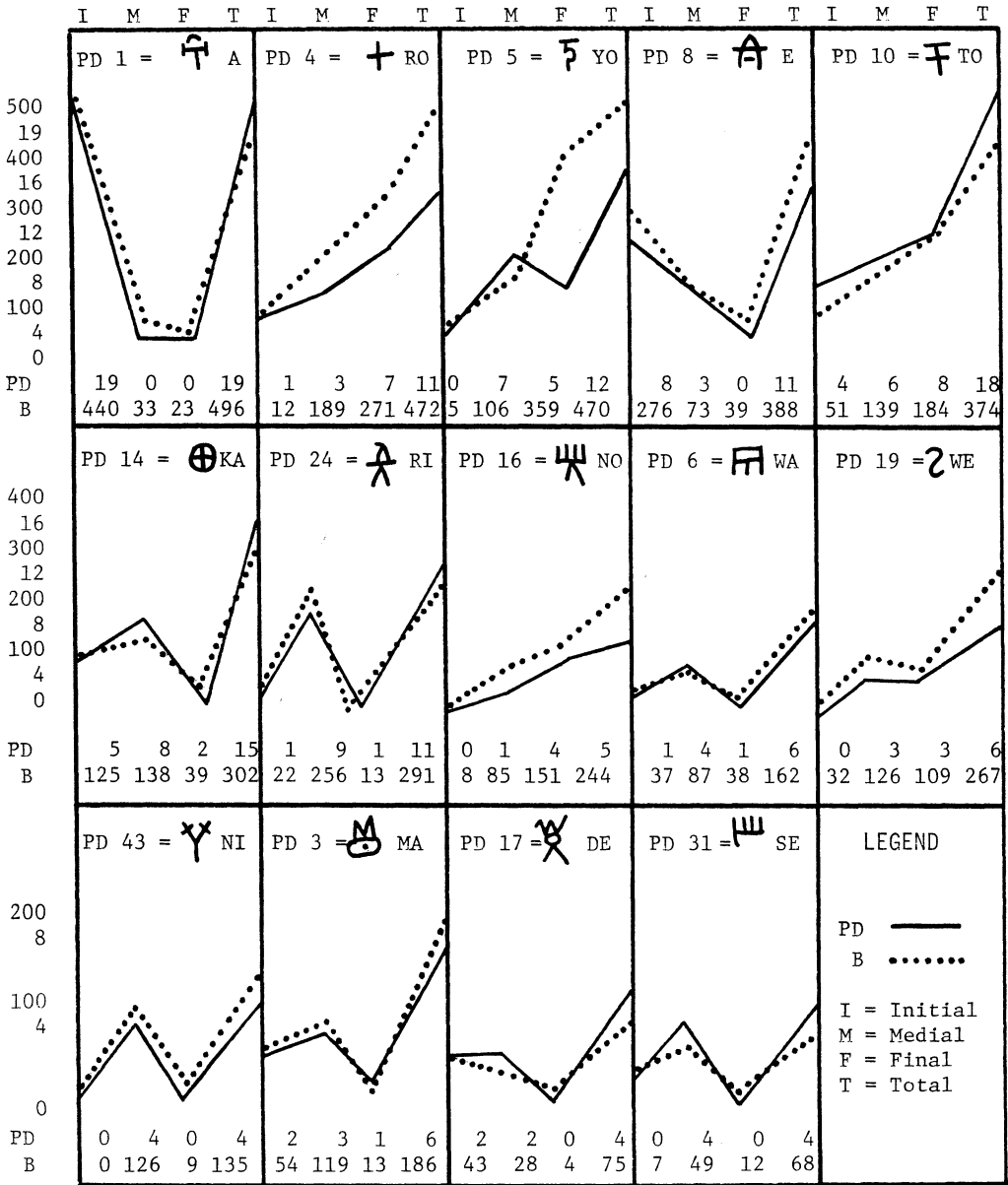
FIGURE 1

Figure 2: LIST OF SIGNS AND FREQUENCIES

NO	PD	I	M	F	T	NO	PD	I	M	F	T	NO	PD	I	M	F	T
1		19	0	0	19	16		0	1	4	5	31		0	4	0	4
2		0	13	4	17	17		2	2	0	4	32		0	0	2	2
3		2	3	1	6	18		2	3	0	5	33		0	2	0	2
4		1	3	7	11	19		0	3	3	6	34		0	1	0	1
5		0	7	5	12	20		0	4	7	11	35		0	2	0	2
6		1	4	1	6	21		0	2	0	2	36		4	1	0	5
7		0	5	1	6	22		0	2	1	3	37		0	0	1	1
8		8	3	0	11	23		0	3	0	3	38		0	2	0	2
9		1	5	0	6	24		1	9	1	11	39		2	0	0	2
10		4	6	8	18	25		0	1	3	4	40		0	0	1	1
11		0	2	1	3	26		1	3	0	4	41		1	0	0	1
12		0	1	0	1	27		0	0	1	1	42		0	1	0	1
13		2	1	3	6	28		0	4	3	7	43		0	4	0	4
14		5	8	2	15	29		2	2	0	4	44		1	1	0	2
15		0	1	0	1	30		2	0	0	2	45		0	1	0	1

I = initial M = medial F = final T = total

Figure 3: COMPARISON OF PD AND LINEAR B FREQUENCIES



	A	E	I	O	U
Y					
W					
R					
M					
N					
P					
T					
(D)					
K					
(Q)					
S					

THORN = (S)

Unidentified: 15. 30. 32. 41. 42.

Figure 4

SECTION VI

VARIA

LA SCOMPARSA DEL "PASSATO REMOTO" IN ROMANZO E IN TEDESCO

GIULIANO BONFANTE
Roma, Italia

Da tempo si discute della scomparsa del passato sêmplice (*ich liebte*) nel tedesco meridionale, sostituito dal passato composto (*ich habe geliebt*). L'area di questo fenomeno è cosí descritta da I. Dal, 1960: 1: "Der Schwund hat das ganze Oberdeutsche, den Süden des Rhein-Fränkischen und das Ostfränkische bis auf die nördlichste Teile betroffen". Cfr. anche Meillet (1926:151 s.) il quale osserva che anche a Breslavia, in Slesia, l'uso del passato sêmplice è raro. Esso dunque comprende, Slesia a parte, l'Alsazia, la Lorena tedesca, la Germania meridionale (Baviera, Württemberg ecc. ecc.), l'Austria, dove si à solo *war*, e la Svizzera. La cosa comincia intorno al 1537, sembra (Dal, p. 3). Ma il fenomeno è piú esteso che il Meillet non pensi: non solo esso è penetrato (in parte) in romancio, in Jugoslavia e in Romania (Meillet 1926: 151, 153), certo dall'Austria, ma (dimêntica il Meillet) esso è comune in tutta l'Italia settentrionale a cominciare dal sêcolo XIV e invade in parte la Toscana settentrionale (v. *AIS* e cfr. Rohlf 1968:312, 1969: 45 s.). Nella Francia settentrionale il "passato remoto" è scomparso quasi del tutto, e vive solo nella Francia occitânica: anche il franco-canadese, che pure è arcaico (XVII sêcolo [cfr. Tagliavini 1959, n. 154]) lo ignora (Meillet, p. 150 s.): certo agl'inizii del XIX sêcolo in Francia era morente (Meillet, *ibidem*); ma la sua scomparsa dalla lingua parlata è molto piú antica, come è provato p. es. dal fatto che il francese del Cànada non lo conosce (Meillet, p. 151).

Come causa della scomparsa in tedesco (a cui si lîmitano, erronea-

mente, gli studiosi tedeschi) è stata avanzata dal Reis (Dal, p. 1) una teoria di purissima acqua neogrammatica, che è stata purtroppo approvata da altri studiosi, e anche nientemeno che dal Behaghel (Dal, p. 2): il passato semplice sarebbe sparito per motivi puramente "fonetici", perché con l'indebolimento e la scomparsa dell'e atono di sillaba finale in tedesco le forme del passato come *spielte*(e), *liebt*(e) venivano a coincidere con quelle del presente *spielt*, *liebt*. Tale tesi è respinta anche dal Dal: "Die in den Mundarten vorhandenen Systeme machen es also offenbar daß der Grund des Präteritumschwundes nicht darin zu suchen ist, daß das Dentalsuffix unfähig wurde, kategoriale Unterscheidung auszudrücken" (Dal, p. 5). Questa è la conclusione del Dal dopo un esame accurato di tutti i dialetti tedeschi meridionali. La tesi ricorda quella (egualmente assurda) che la perdita della declinazione romanza (*lūnă*, *lūnām*, *lūnā*) sarebbe dovuta alla scomparsa dell'*m* finale e della quantità (nom. *lūnă*: abl. *lūnā*). Quando invece è assolutamente evidente che, se una lingua ha spiritualmente bisogno di un caso o di un tempo, se lo ricrea sempre facilmente con nuovi elementi, che trova sempre: del che è facile trovare esempi p. es. in russo o ancor più chiaramente in tochariano: dove la declinazione i.e. dal punto di vista formale è quasi totalmente scomparsa, ma è sostituita da desinenze nuove, che con l'i.e. non hanno quasi mai a che fare: cfr. p. es. Krause-Thomas, I, 1960:139, dove leggo:

	tochariano B		tochariano A
		singolare	
nominativo	<i>ñem</i>		<i>wram</i>
strumentale	----		<i>wramyo</i>
perlato	<i>ñemtsa</i>		<i>wramā</i>
genitivo	<i>ñemantse</i>		<i>wramis</i>
		plurale	
nominativo	<i>ñemna</i>		<i>wramām</i>
strumentale	----		<i>wramānyo</i>
perlato	<i>ñemnasa</i>		<i>wramā</i>
genitivo	<i>ñemnamts</i>		<i>wramnis</i>

(Il "perlativo" [Krause-Thomas, I, p. 85] cūmula di rēgola le funzioni di strumentale e di locativo. E proprio del solo tocario [A e B] sia per la forma sia per la funzione.)

Ben pochi di questi casi pōssono èssere di orìgine i.e.: il tocario, dopo aver perduto i casi i.e., se n'è fabbricati di nuovi. La cosa non è del resto inconsueta. L'italiano e le lingue romanze, dopo aver perduto il futuro latino (*cantābit*, *timēbit*, *leget*, *audiet*) se n'è costituito uno nuovo con la fusione di *cantāre* + *habet* (romeno *cantāre* + *uolt*), cfr. Bonfante 1973:219 ss. E potrei continuare. Le lingue dunque pèrdono certe forme, poi se ne pèntono, e le ricostruiscono con materiali nuovi: cosí è per il futuro romanzo, e per lo stesso tipo à *cantato* (*er hat gesungen*) che à sostituito il perfetto greco (e, se vogliamo, il cosiddetto "perfetto lògico" latino). Inūtile dire che il gòtico non conosce il passato composto. Non è quindi ammissibile neanche la teoría del Dal summenzionato, il quale pretende che *ich spielte* abbia perduto il senso di passato perché è diventato un irreale (cfr. il fr. *si j'avais...*). Se il tedesco meridionale aveva bisogno di un "irreale", se ne poteva fabbricare uno *ex novo* come à fatto p. es. l'italiano: *cantāre* + *habuit* > *canterebbe*, che in latino non esisteva. Dunque anche la tesi del Dal è di puro stampo neogrammatico.

Per conto mio dunque, da un punto di vista neolinguistico, la forma à *cantato* usata come aoristo, nata forse in Francia, si è poi diffusa nella Germania meridionale, in Svízzera, in Austria, nell'Italia settentrionale, e à lanciato punte in Toscana, in Iugoslavia e in Romania. Resta il problema cronològico: la forma di passato composto in sostituzione del passato sēmplice è attestata, almeno nei suoi inizi, prima nell'Italia settentrionale che altrove. E nulla vieta che sia nata proprio qui. Ma la cronologia dei testi è spesso fallace: una forma può vīvere per sēcoli nella lingua parlata, e non apparire mai nella lingua scritta. Cosí p. es. il basco si parlava certo in Aquitania ai tempi di Giulio Cēsare, mentre le prime (scarsissime) testimonianze del basco si ànno vicino al Mille (Tovar 1950:11)¹; lo stesso dīcasi per l'albanese; ma anche l'italiano e il francese fūrono parlati

certo molto prima del IX sècolo, quando appare una brevissima iscrizione italiana in una chiesa di Roma, e in Francia i Giuramenti di Strasburgo dell'842, come credo di aver dimostrato (Bonfante 1968:21 ss.).

Per lunghi sècoli dunque si è parlato in basco e scritto in latino (o in ispannolo). Perciò anche la sostituzione del passato composto al passato sèmplice può èssere molto antica (e *a priori* sembra più probabile assai, per quest'època, un influsso francese in Germania e in Italia anzichè l'inverso). Ma quale che sia il centro di diffusione, mi sembra chiaro che in Francia, in Germania e in Italia si tratti di un fenomeno unico.

Dunque con il mètodo idealistico-neolinguistico moltissimi problemi trovano la loro soluzione; con il mètodo materialista-neogrammatico, ben pochi o nessuno.

¹"Textos de una cierta extensión se hallan en Lucio Marineo Sículo (1533), en la continuación de la Celestina por Gaspar Gómez (1536), en Rabelais (1543)". La letteratura basca vera e propria comincia nel 1545 (Tovar, p. 12).

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PRINCIPLES OF STYLISTIC ANALYSIS*

GIORGIO BUCCELLATI

University of California, Los Angeles

1. INTRODUCTION:

It is a standard joke among archaeologists that whatever remains functionally unexplained in a given assemblage of material culture comes to be called, and considered, "cultic". Much the same could be said, on the formal level, of the way the term "style" is often used. At its vaguest, style is conceived as some sort of limbo to which anything formally bizarre in culture may be relegated. Only too often style is thus a negative common denominator, applicable to anything which strays from the general understanding of established formal patterns. This derives in part from what I feel is a mistake even in the more sophisticated approaches to the question: style is essentially considered to belong to the level of synchronic analysis. Envisaged within a broader system of binary oppositions, style is then considered to be a node parallel to such other nodes as morphology and syntax (in linguistics) or technique and function (in artifactual analysis). The concept of style described in this paper is just the opposite: style is *not* a *synchronic* notion. Building on this presupposition, style

*This paper owes much to a seminar on style in archaeology which was offered jointly by James R. Sackett and the present writer at UCLA in 1974. Some of Sackett's ideas, which influenced the formulation presented here, are now found in Sackett 1977 and forthcoming.

will be described as a diachronic system, diachronic in the specific sense that it is neither synchronic nor historical. The system is presented in terms of basic constituents, their distributional range and the factors which condition the various distributional possibilities. While the system is meant as applicable to style as such, i.e., without restriction to language, art, life-"styles" or any other single type of evidence, the typology and exemplification given here will be primarily linguistic (specifically Akkadian) and to some extent artifactual (specifically, from the material culture of ancient Mesopotamia). It should be stressed, however, that the scope of the paper is theoretical and not documentary.

2. THE SYSTEM:

2.1. *Definition:*

Style is considered here a system which may be analyzed (1) on different levels (from its minimal constituent elements to clustering mechanisms and the factors operative in clustering), (2) for different types of cultural assemblages (language, figurative arts, utilitarian artifacts, etc.) and (3) for different segments of the cultural continuum (the works of a given author, a given period, a given area, etc.). In each case, style is considered as a purely diachronic and distributional category. It is defined as follows: *a recurrent selection of relatively idiosyncratic features.*

SELECTION: This word is meant to be neutral with regard to the question of consciousness: we will simply establish patterns of cooccurrence as they are found in the text and as they can be ascribed to the initiative of the author, without concern as to whether the author was actively seeking to establish such patterns, or was even secondarily conscious of their presence. The question of active choice or secondary awareness belongs more properly to psychology than stylistics.

FEATURES: Either a single feature or a cluster of features may be the object of selection. A single morphological, syntactical or lexical item may be sufficiently distinctive to acquire a stylistic value -- thus, for instance in Akkadian the use of the terminative ending *-iš* in an adverbial function, the use of emphasis or the use of a "poetic" word. Clusters of features are even more distinctive, since they exhibit a higher degree of differentiation as a result of the higher number of components: thus a formula may be considered as a lexical cluster, and be specific for a single author or textual assemblage.

RECURRENT: For features to form a pattern, they have normally to be repeated within the same textual assemblage. Use of a single "poetic" word may be insufficient to determine a stylistic mode; only if words of this type are recurrent can such a mode be identified. Such a need for recurrence implies that style is an essentially diachronic category, since time, or a temporal sequence, is the key sorting criterion within an assemblage: repetition implies a staggering of phenomena along a given temporal axis.

IDIOSYNCRATIC: The features are further identifiable on the basis of their distinctiveness within a given assemblage vis-à-vis other assemblages. Use of a formula becomes distinctive for a given assemblage only insofar as it is not found, at least not with the same degree of frequency, in other assemblages. This too is an essentially diachronic category, since assemblages must by necessity be juxtaposed in time, and their comparison is rooted on precisely such a juxtaposition.

2.2. *Corollaries:*

A few additional comments are relevant here with regard to some of the notions advanced in the discussion.

ASSEMBLAGE: The phenomenon of recurrence or repetition, assumed here

as central to the definition of style, requires that explicit boundaries be set for (1) the containment of repetition itself and (2) the contrast with areas outside the boundaries where the same repetition does not occur. Such boundaries will vary, depending on the concerns and the modes of analysis, from a portion of a given text, to a complete text, to an author, a period, a genre, a culture. The term "(textual) assemblage" is used here as a neutral referent for any portion of the data base for which explicit boundaries are set.

SELECTION (CHOICE) AND EQUIVALENCE: The term "selection" given in our definition of style has already been explained as referring to distributional cooccurrence rather than (necessarily) to conscious choice. While this restricted meaning applies rather rigidly to the scope of the present research, I do not mean to exclude the role which "choosing" in fact has in conditioning style. Rather, I wish to stress that selection or choice, where it exists, is not one among stylistic equivalents, but rather one which precedes style. There are in fact no equivalences in terms of style, although there may be stylistic features which are equivalent in terms of other aspects of the situation. Freedom of choice, to the extent that it is present in a given situation, is actually upstream of expression (and hence of style). The factors which condition a decision are many and are derived from a great variety of levels: style, itself a selection, is conditioned by non-stylistic factors, hence it is redundant to speak of a stylistic choice. If I want to buy a car, I have freedom of choice among various types of cars according to specific variables such as power, price, line, color, and if my color preference is white, I cannot say that white is equivalent to black in terms of color -- it is only equivalent in terms of, say, price. Similarly, in linguistic style, *we can speak of equivalents only if we specify the referential point of the equivalence*; otherwise the notion of equivalence (and of the ensuing selection) remains so vague as to lack any true explanatory power. In any case, it is methodologically indispensable to keep the levels of analysis separate, and to de-

scribe formal distributional patterns before suggesting reasons for their choice. In the case of literature, it may be said that an integration of the levels of analysis (linguistic, compositional, psychological, etc.) is properly the task of literary criticism.

PARADIGM OF ALTERNANTS: Intrinsic to the notion of alternation is that there must be a range of alternants among which selection takes place. The alternants form a paradigm or matrix, where the vertical axis may be conceived as representing the constant elements within the alternants, and the horizontal axis the variables. Linguistic examples of this may be found below in 3.2.1, where Akkadian sets of syntactical and lexical alternants are given. Similarly, one may set up an artificial paradigm for, say, vessels, which might assume the configuration shown in Chart 1:

	constant	variables			
	generic function	relative size	form ~ function	physical properties	economic value
bowl	containment	medium	scooping	stone	medium
goblet	containment	small	pouring with one hand	metal	high
bottle	containment	medium	pouring with one hand	clay	low
vase	containment	large	pouring with two hands	clay	medium

This clarifies further the notion of equivalence just mentioned. The items are members of a single paradigm by virtue of the constant (in this respect they are identical), but they are different members of the paradigm by virtue of the variables (in this respect they are equivalent).

DIACHRONIC VS. HISTORICAL: Given the prominent role held by the notion of diachrony in the definition of style which is employed here, it may

be in order to clarify certain aspects of this concept which are often not properly understood. As it was just pointed out in the explanation of the concept of "recurrence", a diachronic system is one in which the key component elements include time as a chief sorting criterion. In this view, the elements can only be seen as juxtaposed along a temporal axis, i.e., with a time interval intervening among them: a style element can be identified as such only because the contrast with other elements takes their reciprocal time interval into account. Notice that a synchronic system, too, is posited in a temporal framework (hence "synchronic" rather than "achronic"), except that in that case the ordering criteria for the system do not build on contrasting time intervals. Notice further that synchrony is also different from contemporaneity, since contemporaneity is really a diachronic concept, meaning as it does a narrow segment of a temporal sequence. Notice finally that "diachronic" is also quite different from "historical", since the latter refers to a comparison of systems, whereas the former is a constitutive criterion in the establishment of a system. Hence "historical stylistics" is not a redundant definition since it refers to the process of growth from one stylistic mode to another.

STYLISTIC AND LINGUISTIC DEVELOPMENT: It must be remarked by way of clarification that the definition of style given above specifically excludes the phenomenon of linguistic development. The difference may be explained as follows. On the one hand, stylistic development is based on the distribution of (1) idiosyncratic features as they can be found in (2) textual assemblages which are considered diachronically. Now idiosyncrasy may be defined in terms of frequency (not only of presence or absence) of a phenomenon; and a diachronic consideration does not exclude textual assemblages which are contemporary, since contemporaneity is a diachronic consideration. On the other hand, linguistic development (1) depends on the recognition of patterns of presence or absence of phenomena and (2) the assemblage boundaries on which it is based are always coterminous with broad and specific geographic and

chronological boundaries. When, for example, there occurs in Middle Babylonian a phonological change /št/ > /lt/, the phenomenon is total (not just a matter of frequency) and its textual distribution corresponds to a specific area (Southern Mesopotamia) and period (latter part of the second millennium).

3. MINIMAL ELEMENTS: STYLISTIC FEATURES:

3.1. Definition:

It has already been stressed that no synchronic description of stylistic features is possible. That is to say, style is not composed of features which are contrasted to say, morphological or syntactical features: it is not as if emphasis or metaphors, for instance, are stylistic in the sense that the tenses of the verb are morphological, or subordination is syntactical. As already indicated, style is not a node in a binary opposition with morphology or syntax. Rather, it is a matrix which superimposes a specific diachronic grid over the synchronic data established (in linguistics) by morphology or syntax. Therefore, it is true to say that every single linguistic feature is potentially a feature within a system of linguistic stylistics, every compositional feature is potentially a feature within a system of compositional stylistics, and so on: these features become stylistic the moment they are used in diachronic distributional patterns which are meaningful in contrasting two or more assemblages. In other words, every stylistic feature must first be described in terms of a synchronic system before its diachronic distribution (stylistic value) can be mapped; on that basis one can then trace in turn a process of historical growth. For example: (1) the Akkadian terminative-adverbial -iṣ must first be described synchronically as part of a case system of nominal inflection; (2) one can then map its diachronic distribution in given assemblages, thereby determining that it has a stylistic value; (3) at that point one can trace the historical growth whereby one iden-

tifies all possible cultural influences which have conditioned, and therefore contribute to explain, the articulation in time of the various moments of that particular phenomenon -- going thus from a study of stylistic distribution to a study of stylistic development. On the other hand, linguistic features which do not exhibit any meaningful diachronic distribution (say, for instance, the alternation singular/plural), are not de facto stylistic, even though there is nothing intrinsic to the system which prevents them from being so (on the specific case of number alternation see below, 5.1).

If, as maintained here, all linguistic features are potentially stylistic, then an inventory of, say, Akkadian stylistic features would in effect correspond to a linguistic description of Akkadian as a whole. Stylistic features would then have to be described synchronically as part of a linguistic system before their stylistic role can be described. Such a synchronic description is obviously not specifically the task of stylistic analysis; yet there are two ways in which it must be taken into account even within the framework of a given stylistic system. First, an inventory must be given of those linguistic features which have in fact come to have a stylistic value. Second, stylistic analysis may lead to the recognition of features which have not been adequately treated within a synchronic framework.

As for the inventory, it should include all those features which are found to be idiosyncratic of given assemblages as a result of a diachronic distribution. In terms of Enkvist's apt definition (see below, 4.1), one will have to define the probability factor of synchronically defined items in terms of their contextual relationships. Exhaustiveness in this respect can hardly be reached unless one delimits sharply the boundaries of the pertinent assemblages, and even then one will have to utilize mechanical means, i.e., electronic data processing to make the task anywhere near possible; this is the field which has come to be defined as stylometrics (on the nature of such means and their availability for Akkadian, see Buccellati 1977 and forthcoming). It is such an inventory which forms the basis for a given stylistic system (as different

from *the* generalized system described here) -- the basis for, say, Akkadian or Shakespearean stylistics.

As for the second point mentioned above, stylistic considerations may in fact serve a heuristic function: certain features which have been neglected within a system of synchronic analysis may be recognized when assemblages become the object of stylistic analysis. Thus the complexity of the Akkadian noun phrase system may be more clearly brought home when contrasted with the fact that Akkadian subordination is relatively inoperative. Description of noun phrase structures and of verbal subordination remain certainly a part of syntax, and it is only upon such a synchronic definition of the features that stylistic analysis can operate. As if through a mutual feedback system, style identifies a feature as being in need of syntactical definition; once so defined, the feature becomes stylistic by being mapped onto a given distributional system of assemblage distinctiveness.

3.2. *Segmental Level:*

One type of stylistic features may be defined in terms of segmentation of individual items within an assemblage, e.g., individual texts or artifacts, into intrinsic formal attributes. They are not established in terms of the assemblage as a whole (which is the compositional level described below), but rather in terms of discrete segments. These in turn may consist either of physically contiguous components (e.g., phonemes within continuous morphemes or words within bound phrase structures) or of components which, although not contiguous, are tensionally held together within a single string or segment (e.g., discontinuous radical morphemes or separate words within a sentence).

3.2.1. *Linguistic Data:*

Linguistic examples of segmental stylistic features may be derived from all levels of the grammatical and lexical sphere. In *phonology*,

"alliteration" is often a stylistic feature: it may be described as a case of discontinuous phoneme clustering, where the cluster is characterized by the identity of the phonemes. (Note that "alliteration" is a poor term since it refers to a graphic, rather than phonological, configuration.)

The alternation presence/absence of markers is the most common source of *morphological* selection. In Akkadian, for instance, mimation has been explained as a positional morpheme, i.e., a marker of the position where a genitival pronominal suffix would occur in a noun phrase (Gelb 1969:144f); almost automatic in the early stages of the language, mimation came to be dropped with increasing frequency, i.e., a selection was made for lack of positional marking, a phenomenon which is properly stylistic.

Syntax, lexicon and discourse analysis are much more fertile sources of stylistic features. An Akkadian *syntactical* feature which lends itself for alternative selections is subordination. Alternate means which are used in Akkadian are coordination and nominalization, and these are on the whole more frequent than subordination. Yet when subordination occurs, it may reach high degrees of complexity, especially in prose. This indicates not only that subordination was productive in the language, but also that it was highly developed in its potential use. A paradigm may be established of alternate syntactical features, as follows:

subordination	<i>kīma tammaru...</i>	"as you see..."
coordination	<i>tammar-ma...</i>	"you will see and..."
nominalization	<i>ina amārim...</i>	"in seeing..."

The components of this paradigm are stylistic features because their selection can be mapped on the basis of assemblage distinctiveness.

A synonym set is the *lexical* equivalent of the syntactical paradigms just considered. Synonyms have closely overlapping semantic ranges, thus they are partially identical in terms of meaning, and as

a result they can easily become stylistic features. As part of the semantic range we may consider the cultural associations which a given word may evoke. In a "paradigm" which might list

<i>eršetum</i>	"land, earth"
<i>qaqqarum</i>	"land, ground"
<i>mātum</i>	"land, country"
<i>ēperum</i>	"land, dirt"
<i>pātum</i>	"land, territory"
<i>ammatum</i>	"land, terra firma"

the last word has an arcane connotation which might be rendered in English by using a loan word (Latin "terra firma" for "land as opposed to the sea, and seen from the sea") which is esoteric and thus conveys a special semantic value. These considerations contribute to defining a specific semantic value of *ammatum*; its stylistic value, if any, will have to be derived not from its single appearance in the text, but from its being part of a recurrent selection for similar linguistic features.

Discourse analysis (or "rhesiology") envisages links over and beyond sentence boundaries. At the segmental level, one major example of stylistic feature is meter. The function of meter is to channel expression into predictable corridors, by means of such devices as rhyme or rhythm (based on syllabic quantity alternation or syllable count). In Akkadian, metrical channeling takes the form of syntactic isotonism (see Buccellati 1978). The variety of constraints imposed by meter on discourse provides a rich set of alternants for stylistic definition.

3.2.2. *Artifactual Data:*

The formal categorization of artifactual data is not as developed as it is for linguistic data, hence stylistic features are not as readily identifiable as linguistic features. At the segmental level the

following considerations may be suggested.

A first distinction may be made between the physical property of an artifact and the attributes resulting from manufacturing. As for *physical properties*, one can distinguish between type of material (metal, stone, etc.), color, weight, texture, etc. The alternation between stylistic features of this type is considerable, since the range of available items is very high.

As for manufacturing attributes, the ones that pertain to the segmental level concern this spatial arrangement. This corresponds to what one calls sometimes artifactual "morphology", and it will be immediately apparent how the morphological attributes may all easily become stylistic features. A classification of such attributes might distinguish between an absolute and a relative level, of which only the former belongs to the segmental level. It includes extreme measurements (such as height, width, diameter), and total measurements (such as are made possible through photogrammetry).

3.3. Compositional Level:

A second type of stylistic feature may be defined in terms of the item (e.g., a text or an artifact) as a whole, still from the viewpoint of an analysis of intrinsic formal elements. I am calling this the compositional level where the term "composition" refers to the overall coordination of the components. Naturally, individual compositional features are to be discerned, but always from the viewpoint of the integrity of the item as a whole.

3.3.1. Linguistic Data:

Viewed in its unfolding, a text may be conceived as a linear entity: this is held together by the overall notional unity of the message, by the internal substructuring into segmental building blocks, and by the resulting junctures between the latter. These, among others, are what

may be called the most important LINEAR devices of composition.

The term *composition* may be used in a general sense to refer to the internal connective texture of the message, whether in fact there is (1) a *plot* or *story* built, for example, on the contrastive growth of characters and situations or there is simply (2) an *account* of data stated as coterminous. To the first category, that of contrastive growth, belongs typically the modern novel. The closest we come to this in Akkadian literature is perhaps with the "Poor Man of Nippur", where the unfolding of the story is in itself the dominant of the message. But also such texts as "Irra", the "Vision of the Netherworld", the "Descent of Ishtar", or even the "Theodicy" rely on contrastive growth, often in ways which are not immediately apparent and which are therefore all the more effective, if more difficult to detect. For an in-depth compositional analysis along these lines of "Gilgameš", the "Theodicy" and the "Dialog of Pessimism", I may refer to three essays I wrote in Italian a few years ago (Buccellati 1972).

The composition appears as an account or a statement, rather than as a contrastive description with poetic texts such as hymns or with prose texts such as the political oratory of royal inscriptions. Here events which are obviously part and parcel of a given time process are flattened, as it were, within the framework of what is essentially, from a compositional point of view, a synchronic account. The "Sippar" inscription of Hammurapi is a little compositional jewel in this respect -- no matter how worn out by continuous reading in introductory classes.

The unity of a text is often highlighted by compositional devices which bracket or include the "composition" (whether plot or account). The most obvious of these INCLUSIVE devices is what may be called *frame* -- i.e., a notional structure in which the message is embedded, a supra-segmental link which overarches the linear progression of the story from beginning to end (on the notion of frame, see, e.g., Oppenheim 1956:187f and 213). A typical example is the dialog form of the "Dialog of Pessimism", which serves to give an internal unity to what would otherwise appear as a disconnected collection of proverbs and maxims (this notion

is elaborated in detail in Buccellati 1972:83-90). The acrostic may be regarded as a special form of frame, especially when it results in a statement which serves to proclaim the dominant theme of the text -- as in the "Theodicy".

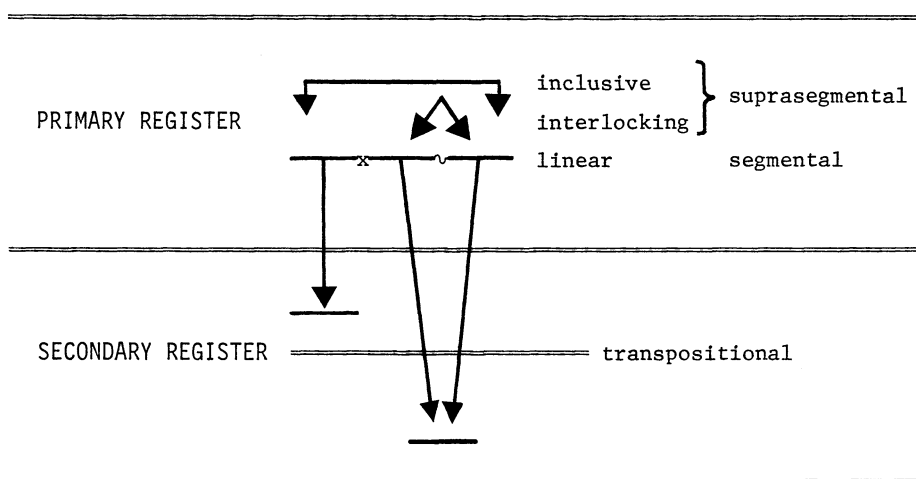
Similar in function to inclusive devices are INTERLOCKING devices, which overarch portions of a given text; in so doing they serve as a tensional factor in binding a composition together and in underscoring thematic developments. One might distinguish two main types depending on whether the structural components which are so linked are contiguous or not.

To the first type belongs the best known of these devices, namely *parallelism*: of two contiguous segments, the second parallels the first in a variety of ways, and with regard to grammatical, semantic or other characteristics. Since much has been written about this particular device, from the viewpoint of ancient Near Eastern literatures (see recently Greenstein 1976), or from a broader and comparative viewpoint (see especially Jakobson 1966), I need not proceed any further here. It may only be worth pointing out that the notion of parallelism refers expressly only to *metrical* (contiguous) segments, and that these normally are verses, rather than, for instance, couplets. There may of course be parallelism also in prose (see for instance the royal epithets in the "Sippar" inscription); here, however, there is no thoroughgoing correlation between rhesiological and compositional structure, so that parallelism is more diffused and generally at a notional level only. The aversion to straddling between verses magnifies even more the role of parallelism in Akkadian poetry.

Another type of interlocking device is that of *repetition*, which may occur between contiguous segments (e.g., two adjacent sentences, one ending and the other beginning with the same word) as well as non-contiguous ones (e.g., a text portion which is repeated verbatim at different junctures, such as a refrain). More subtle, and hence more difficult to perceive but also literarily all the more effective, is the device of *crossreferencing*: a notional theme not necessarily sig-

naled by the same lexical items, is repeated at some distance, and serves as a powerful tensional factor in holding the composition together (for a number of such cases in "Gilgameš", see Buccellati 1972: 2-36, especially 33).

While the devices discussed so far operate on the level of composition viewed as a single and primary register of segmental relationships, there is also a secondary register which does not have a compositional structure of its own, but consists only of compositional fragments: the link between these fragments of the secondary register and the full segmental structure of the primary register is provided by the TRANSPOSITIONAL devices. The graphic rendering of Chart 2 may be useful in portraying the intended configuration.



When Sennacherib says of himself that "he swept over the land of the enemy like a storm" (*gimir mātīšu...kīma imbari asḥup*), he switches registers and invokes a fragment of a different composition (pertaining to a natural phenomenon) into the primary composition, which describes his military exploits. All that is left undeveloped in the second register (i.e., all that is left unsaid about the storm) is present as a

potential composition of its own; the context of the primary register calls for a selection of the pertinent implications -- in this case, for instance, the fierceness, danger, noise of the storm might be the pertinent qualities which apply to the primary register, whereas such questions as the amount of rainfall are in the background. It is proper then of transpositional devices to invoke fragments of other compositions without indicating fully the range of applicability (this is true even of complex similes such as those, for instance, found in Homer).

An important element of transpositional devices is that they tend to violate the natural sequence of things: by extracting one compositional fragment from its context, and transposing it onto a different register, the natural identity of the fragment is lost. In our example, only a portion of the notion "storm" is envisaged, and the overall natural context of the phenomenon is explicitly pushed into the background. Such a dislocation of the natural sequence can only take place within given bounds: its effectiveness is proportional to the tensional range of the dislocation (i.e., the farther one pushes away from the level of banality, the more captivating is the transposition); on the other hand, there must remain a fundamental intelligibility of the proposed linkage between registers. Poetry has been defined as a type of composition which exhibits such features in the extreme (Cohen 1966).

Simile and metaphor are the two most characteristic realizations of such device. Their formal properties within Akkadian are described briefly in an earlier paper (Buccellati 1976), to which I may simply refer here for a preliminary exemplification. For an interesting example of a different type of dislocation in Biblical poetry, see Weiss 1967, especially 419.

3.3.2. *Artifactual Data:*

Of the primary distinction between physical properties and manufacturing attributes, only the second pertains properly to the composition-

al level. Relative spatial arrangement includes such elements as the direction of lines (e.g., whether the profile of a vessel is a continuous curve or is segmented by one or more carinations) or the nature of contact points (e.g., the juncture of a spout to the shoulder of a vessel represents fixed contact, while the fitting of a lid on top of a bowl represents potential contact).

Extrinsic *manufacturing* attributes consist of relationships to non-artifactual dimensions, whereby an artifact is viewed in relation either to human beings (i.e., society), or not. The latter type of relations is generally directed toward energy expenditure -- they are "functional" if the word is taken to refer to technical function (but there can also be a social function, a religious function, etc.). Examples include stationary structures (mostly architectural) and movable items such as tools (a hammer used for pounding), weapons (a bow used to shoot an arrow), vessels (a bottle used to pour liquids).

The stylistic value of this classification is high and is reflected in what is called traditionally the "typology" of artifacts. Typological traits or attributes are normally defined in terms of a given assemblage (e.g., the typology of bronze tools), and practically all of these attributes may serve as stylistic features. Relations which view an artifact within a given social context may be described as ideational or economic. Ideational relations pertain to either the figurative or non-figurative sphere. Figurative (or representational) items include sculptures, figurines or paintings; the internal attributes are traditionally considered part of an iconographic inventory, and as such they provide a wide range of stylistic features. This is similar for non-figurative items, which include ornaments such as jewelry, or decorations such as architectural fixtures. The economic sphere pertains to the degree of general availability of a given item, and the consequent "price" (whether monetary or otherwise) with all the impact this has on matters of social stratification, political influence and the like.

To summarize, all the artifactual stylistic features reviewed here may be mapped graphically onto a tree which reflects the binary opposi-

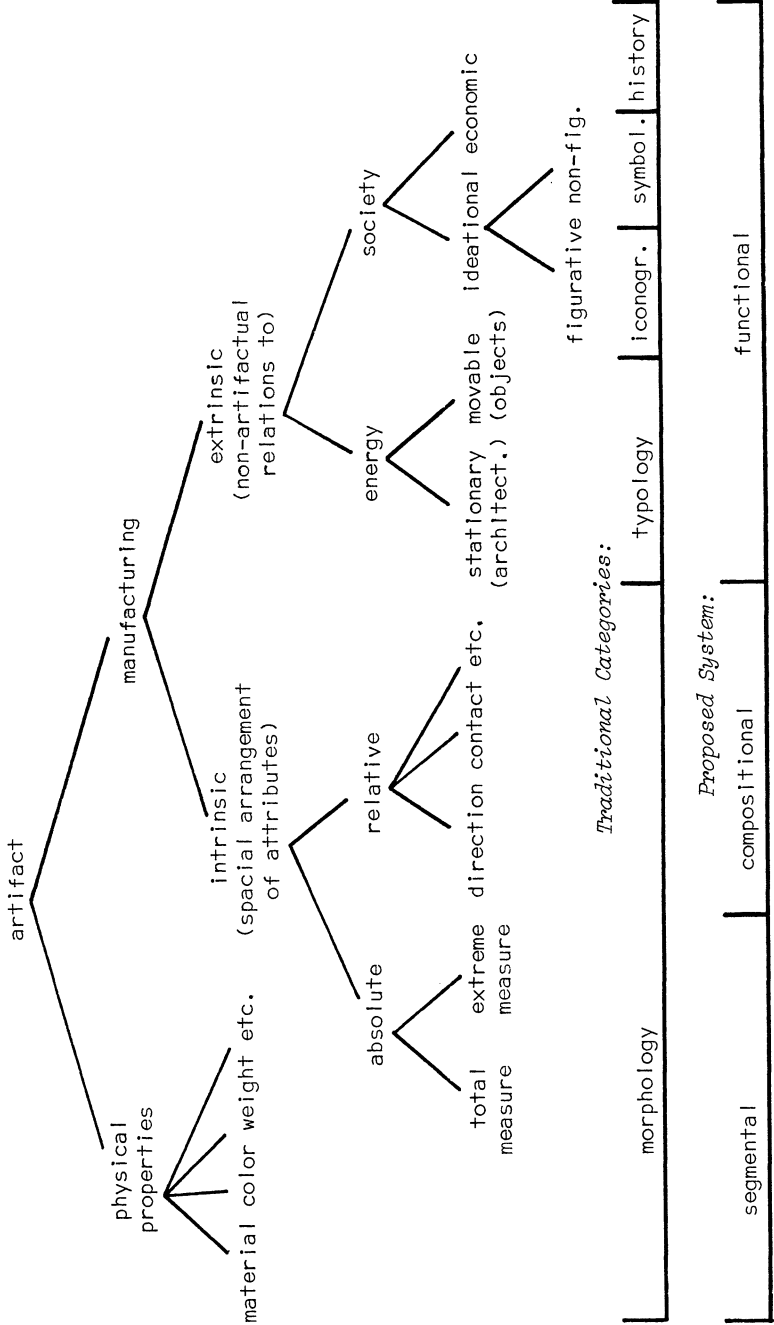


Chart 3

tions described (Chart 3).

4. DISTRIBUTIONAL COMPONENTS: STYLISTIC PATTERNS:

4.1. Definition:

Normally, assemblages are identified as stylistically distinctive on the basis not of a single stylistic feature, but rather of constellations of features. Such constellations are here called "patterns". It is intrinsic to our definition of style, and of stylistic features, that stylistic patterns too result from a diachronic contrast of assemblages. These patterns are descriptively defined as configurations of features which can be shown to be assemblage distinctive; the correlation of features into patterns is the result of a diachronic distributional analysis based on contrasting assemblages. Note that the distributional criterion is absolute -- i.e., it is not relative to a noun from which a given stylistic pattern would be considered a deviation; rather, distributional cooccurrence in a given assemblage is identified as such by virtue of its contrast to other (ideally: all) assemblages. This is well expressed in the insightful definition of style given by Enkvist (1964:28), where the style of a text is said to be "The aggregate of the contextual probabilities of its linguistic items." Such a distributional analysis is a most complex task, because the very definition of assemblages is at the same time a presupposition and a result of such analysis. One can only start therefore with assemblages which can be defined as such on the basis of criteria extrinsic to the assemblage itself, and then verify their stylistic gradation in terms intrinsic to it. Thus, for instance, the various works of a given author may be considered a single assemblage on the basis of their common authorship; this is then verified internally on the basis of a distributional analysis of features and patterns. It is also apparent that assemblages will intersect one another in terms of different criteria, in such a way as to make a potential hierarchy of assemblages all the more difficult.

Computerized data bases lend themselves ideally to a thorough analysis of this type, not only because the data are susceptible to much more rapid inspection along traditional lines, but also because electronic data processing allows for an infinitely greater insight into clustering possibilities.

Patterns may be identified as configurations of features from either a single level (e.g., segmental *or* compositional), or, more frequently, from more levels. The most successful stylistic analysis, in descriptive terms, is the one which identifies the most numerous and most complex patterns; in this case, the result will be a finer differentiation into assemblages which will be all the more contrastive, and hence stylistically distinctive. Also, it is clear that, the narrower the assemblages, the more obvious will be the diachronic scalarity and the finer the stylistic patterning. In what follows, only a few simple examples will be given to illustrate patterning at a single or at multiple level(s).

4.2. *Single Level:*

Two examples may be quoted for segmental patterning in linguistic assemblages. They are both drawn from syntax. On the basis of a limited sample from the royal inscriptions of Ashurnasirpal, Tiglath-Pileser, Shalmaneser, Sargon and Esarhaddon, it appears that in the case of the latter two there is a much higher incidence of coordination among sentences, in the order of 5 to 1 for Sargon and 3 to 1 for Esarhaddon. Similarly, Sargon exhibits a higher incidence of relative clauses, almost in order of 2 to 1 with respect to the others. A second instructive example pertains to the royal letters of the first dynasty of Babylon. The letters of Hammurapi use consistently the prepositional phrase *tuppī annīam ina amārim* as an introductory formula, while the later kings use just as consistently a subordinate clause *tuppī annīam kīma tammāru/ā*.

As for artifactual assemblages, one may think of the profile and the ware of vessels, which can be highly distinctive: for instance, the

so-called bevelled rim bowls exhibit a specific type of rim profile and overall proportions, as well as a type of coarse ware, which are characteristic of the Proto-literate period in Mesopotamia.

Compositional patterning for linguistic assemblages may also be illustrated by two examples. The adverb *šanītam* used to introduce a new topic is a marker of transition specific to letters of certain periods: it emphasizes a sharp break in the flow of information, while at the same time providing a carry-over from one stage to the next. The anacolouthon, on the other hand, seems to obtain the opposite effect by introducing a sharp break where there is in fact no boundary between topics. It may be considered stylistically specific in "scientific" literature -- for instance in the *šumma awīlum* type of clause of the laws, where it serves to highlight the beginning of a new section by providing something like a paragraph title.

As for artifactual assemblages, we may for instance point to a general trend in Old Babylonian ceramics whereby vessels with a flattened overall profile (platters or dishes) are rare; instead, the lower range in a typological classification based on profile is more frequently represented by open convex vessels (shallow bowls).

Of other types of single level patterning, besides the segmental and compositional, I will refer here briefly only to two types which are language specific, the graphic and the informational. The first is treated under the heading of palaeography in what concerns the design element of the script, and under the heading of graphemics in what concerns the correlation between graphic symbols and phonology. Thus we speak traditionally of the ductus of a scribe or scribal school, or of the syllabary of a given period or type of texts -- which are in fact stylistic definitions.

By "informational" style, on the other hand, I refer to a patterned selection of specific items of information. For instance, the normal exclusion of a date formula from the standard structure of Old Babylonian letters, or the normal inclusion of a list of witnesses in contracts, may be considered as stylistic determinants in the way in which

information is conveyed. A distributional analysis based on these criteria is possible, is valid, and is in fact common in Assyriological practice.

4.3. *Multiple Level:*

The most frequent type of stylistic patterning, and the most distinctive and significant, is the one which is based on the correlation of features from many levels.

Literary genres may be regarded as broad textual assemblages. The distinction between prose and poetry is the broadest subdivision in this respect, and it can be defined especially along the lines of discourse analysis (meter), but also, for instance, along the lines of syntax (greater use of emphatic *-ma* after verbs in Akkadian poetry) or lexicon ("poetic" words, such as, for instance, *ammatum*). More narrowly within the range of specific literary genres are such distinctions as the one pertaining to the use of two complex feet in Akkadian hymns, which is excluded instead in other poetic texts, or the other (morphological) pertaining to the wider use of adverbials in *-iṣ* and *-ūm* in the so-called hymnic-epic dialect. In addition to the segmental features just mentioned, literary genres may also be defined by compositional features. Thus, for example, an inclusive device which is characteristic of contemporary literary texts but is missing in Akkadian is a composition title. An equivalent role is played on the other hand in Akkadian by the notion of frame, which is often signaled by the use of the first line of a composition as a way of referring to the composition as a whole. The *enūma* clauses which are found so often at the beginning of literary and scientific compositions provide an indication of how first lines may in fact have been construed to fit into a given compositional pattern. Stylistic specificity of this type may also be recognized when dealing with non-literary texts such as administrative texts, where the internal structure is signaled for instance by total entries given at the end of a text.

As we progressively narrow down the range of textual assemblages involved, the complexity and distinctiveness of patterning tends to increase proportionately. Thus we go from a literary genre in a given literature to the works of an author, or a single work, or even individual portions of a work which can be portioned off as discrete assemblages.

5. CLUSTERING MECHANISMS: STYLISTIC FACTORS:

5.1. *Definition:*

Having isolated both the components of a stylistic system and their contrastive patterning among assemblages, the last important task is to identify the factors which are at the origin of patterning itself. We gain hereby an insight into the dynamics of the system. The selection of elements and patterns which properly characterizes style does not operate at random; it is rather in response, whether consciously or unconsciously, to given factors which condition the selection itself. These conditioning factors are mechanisms which bring about a certain clustering rather than another, they are, in other words, the reasons or the impulses behind the distributional array described above. Such mechanisms are not intrinsic to the assemblage, rather they operate from without: they arise from the training of the author (or artist, or composer) or from social conditions at the time the work is put together, from economic limitations or political interference. In every case, the ultimate goal of stylistic analysis is to identify these extra-assemblage factors within the context from which they emanate, and then determine how they affect the selection of intra-assemblage attributes on the part of the author. It is quite possible, of course, for stylistic analysis to stop at the level of the *description* of idiosyncratic distributional patterns: this can be in itself quite a complex task, and is in any case a precondition for any further inquiry into the underlying stylistic factors. But it is only such an inquiry which

will ultimately provide a true *explanation* of the stylistic system.

Through such an explanation we come closer to an understanding of the full semiotic range of a given assemblage. The identification of the stylistic factors which bring about the distributional reality of a work provide us with an insight into the semiotic prehistory of the work itself, and thus into its present semiotic power. The more complex is the formal stylistic description of an assemblage, and the more arcane its semiotic range, the more challenging and rewarding will correspondingly be its analysis. Through this process one obtains a critical yardstick for the evaluation of an assemblage. Political or social factors may also be operative behind the selection. Two interesting examples pertain to an alternation which is otherwise very rarely susceptible of stylistic selection, i.e., the number alternation between singular and plural. (1) During the 30's, a courtesy address form using the second plural was introduced into Italian under pressure from the Fascist regime: what resulted was an alternation between this form ("voi") and the traditional third singular feminine ("lei") which was stylistic in distribution. (2) In contemporary American English, a trend may be developing to use the third plural common ("they", "them", "theirs") instead of the third singular masculine ("he", "him", "his") where the statement is non gender-specific: in this way one can omit either what is perceived as a socially sexist choice for the masculine or the awkward pairs "he/she", "him/her", "his/her".

5.2. *The Secret Kinship:*

The ways in which different stylistic levels come to be integrated in a text account for its literary nature. To put it differently, literary style may be conceived as the interweaving of all other types of style present in a text. The author's creative integration unifies in the work itself all the levels which we have kept, and must keep, separate for the sake of analysis. Integration, as distinct from juxtaposition, means that the connections are from within, that the counterpoint-

al registers blend as of necessity into a unified harmony. This has been captured in a beautiful statement by a Czech poet who dates back to the early eighteen hundreds and is quoted by R. Jakobson (Matejka and Titunik 1976:164):

"...true poetry -- the more original and alive
its world, the more contradictory the contrasts
in which the secret kinship occurs".

Much of the modern study on poetry has brought out just what the various dimensions of this "secret kinship" are (see for instance the notion of coupling in Levin 1962). And indeed poetry develops this aspect of expression to the extreme, to a point where the complex internal architecture of the poem is immediately felt as necessary at the very moment in which it is posited freely by the author -- causing, in the words of Valéry (1958:72) the poem to acquire something like an intrinsic regenerative power:

The poem...does not die for having lived: it
is expressly designed to be born again from its
ashes and to become endlessly what it has just
been. Poetry can be recognized by this property,
that it tends to get itself reproduced
in its own form: it stimulates us to reconstruct
it identically.

The notion of secret kinship, however, applies to all levels of expression. The farther away from poetry, the less secret and necessary may be the bonds; but they are there nevertheless, in however embryonic and imperceptible a fashion, as filaments which hold together whatever the unit of expression may be. Stylistic analysis gives us a handle with which to identify these bonds or filaments, and conceptualize their relationships. The selections which operate at the various levels are a function of a higher selection, a broader system which subsumes all the various stylistic levels. The distributional classes which are recognized as present in a given textual assemblage are not just cumulative,

but rather reciprocally integrated in a unifying structure. In the measure in which we can discern patterns, we can perceive what the architecture of the whole is. From a formalized description of idiosyncratic selections we can reach the point of origin behind it all, the author's preference; we can discover, as it were, the ancestral source from which the secret kinship emanates -- for whatever type of textual assemblage.

Hence, the effort at formalization about which I spoke at the beginning may be seen to serve a vital, paedagogical role. By bringing us back to the locus where the author's idiosyncratic selections take place, stylistic analysis does more than dissect an object of study: it also trains our sensitivity. Formal recognition of patterns, where patterns are not otherwise perceived, generates an active patterning ability. We assimilate, in other words, the same presuppositions which were operative in the initial creative process. Through a mediate, scientific process we acquire an immediate power of perception. We become educated, humanistically.

5.3. *The Limit of Expectation:*

The internal structure of the text is declared by the text itself, not by any label outside the text. The code is given with the data themselves, and ultimately any decoding must be possible from within the text; for fruition of the secret kinship to be possible, its inner bonds must be apparent of their own volition at the same time that they remain secret, as if in a transfigured state. The self-declaration of the text is not embedded in any single place, but rather it "happens" at the same time that the text "happens". The text sets its own limits, and the degree of expectation created thereby grows apace with the definition of those limits. Poetry pushes to the extreme this process, which is only adumbrated in simpler texts. The limit of expectation is all the more operative the more complex a text is, and it is especially of these texts that I am speaking now, even though in principle the ar-

gumentation applies to all texts.

Both the notion of limit and that of expectation imply directionality. Reading a text means going from threshold to threshold, each one being a limit to what precedes and to what follows: they are at the same time resolutions of announced limits and pointers to further limits. In this constant thresholding lies the dynamism of a text. The delicate balance which is necessary is one between banality and unintelligibility. Whether the resolution of a limit is obvious, and thus banal, or whether it is too obscure, and thus unintelligible -- in either case the expectation is frustrated. This necessary balancing between extremes is partly the cause for the selections made by the author, selections which make up the many stylistic dimensions of a text. The goal of literary analysis is to disentangle these dimensions, and to indicate how effectively they have been ordered along the creative axis to produce the intended result. The directionality implied in the notion of the limit of expectation is a guide to literary analysis. The overarching question is then: how well are the limits posited, how well are they resolved, and what is their hierarchy? Stylistic analysis, in the distributional sense outlined above, will serve as an apposite tool.

6. SUMMARY:

6.1. *The System:*

The principles of stylistic analysis surveyed here may be summarized in the form of a chart which brings together the essential elements of the system (Chart 4). The basic concerns which underlie the system proposed here are highlighted in the graphic arrangement of the chart: the growing degrees of complexity in the analysis of the data, the discreteness and measurability of the elements which make up the system at its various levels, the rigid distinction between the synchronic and the diachronic level of description. As such, the system appears to be

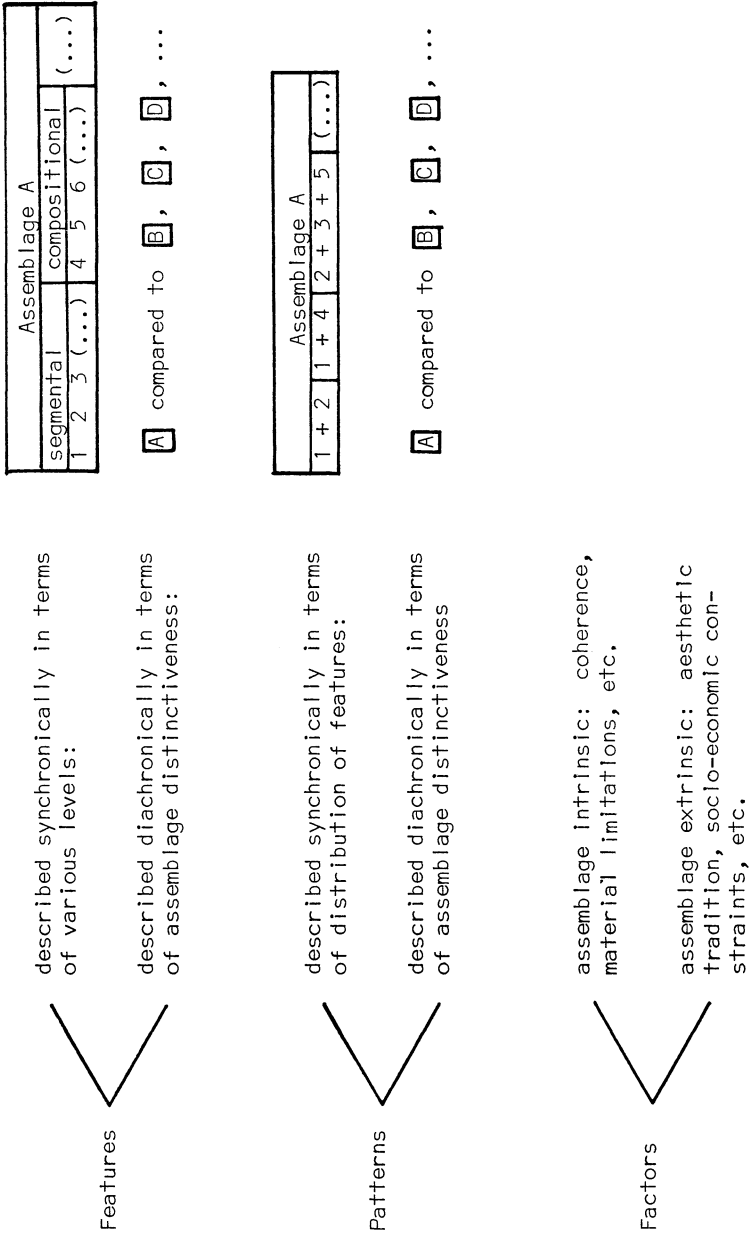


Chart 4

a universal and yet a powerful explicatory model, in that it accounts uniquely for certain major aspects inherent in the data, and it accounts for them in a way that is definite and measurable.

6.2. *The Systems:*

Within the generalized description of the system offered above, the goal will always be to obtain a description of specific individual stylistic systems. While *the* system describes style as a generalized field of inquiry, such a system can only exist in concrete embodiments which correspond to specific assemblages. These will be the stylistic systems, in the plural, with which we will be specifically concerned in our studies of given segments of literature, art history, and so on. Thus *Akkadian* stylistics will include all the elements which can be shown to be distributionally distinctive of the total assemblage of Akkadian texts as distinct from comparable assemblages (e.g., other Semitic linguistic corpora, other comparable literary genres such as epics, etc.). A fuller inquiry into the factors which condition such distributional selections will give us a deeper insight into the dynamics of that particular system. The boundaries of the pertinent assemblage may of course be drawn however broadly or narrowly one may consider suitable -- hence the possibility of stylistics of Akkadian Wisdom literature, or of the "Theodicy", or of a single tablet of "Gilgameš". In any case, we will be able to set specific parameters within an explicit system of analysis; we will be able, especially, to keep the different levels of analysis rigorously discrete one from the other, and on this very basis to allow for an effective correlation of these same levels. In this way style, far from being an ill-defined limbo, can be assigned its own very specific place in the configuration of cultural assemblages; and stylistic analysis, by articulating explicitly the modalities and conditions of this particular cultural dimension, comes to play a unique and powerful role in our growing understanding of culture.

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"REKOMPONIERTE" LEHNBILDUNGEN

ROBERTO GUSMANI
Università di Udine

1. Bei einem der ersten Versuche, die Typologie der *Calques* zu definieren,¹ machte schon F. Seiler darauf aufmerksam, daß es vor allem bei zusammengesetzten Verben oft schwierig ist, die echten Lehnübersetzungen -- die tatsächlich zur Wiedergabe eines fremden Modells erst neu gebildet worden sind -- von den Bedeutungsentlehnungen,² bei denen die Nachahmung nur den erweiterten Gebrauch eines schon vorhandenen Wortes zur Folge hat, zu scheiden. Selbstverständlich kann letztere Eventualität nur dann in Frage kommen, wenn das Vorhandensein des Kompositums v o r dem betreffenden Sprachkontakt bewiesen oder wenigstens durch genügende Indizien wahrscheinlich gemacht werden kann, was, wie Seiler richtig bemerkte, in vielen Fällen nicht möglich ist.

Das frühere Auftreten der fraglichen Zusammensetzung genügt allerdings an sich nicht, um die Annahme einer Bedeutungsentlehnung zu rechtfertigen, denn diese Erscheinung setzt voraus, daß eine Beziehung auf semantischer Basis zwischen dem in der Replica-Sprache schon vorhandenen Wort und dem in Frage kommenden Modell tatsächlich hergestellt worden sei. Nun hatte A. Debrunner schon ein Jahr vor dem Erscheinen von Seilers Ausführungen -- und zwar am Ende seines grundlegenden Aufsatzes

¹*Zeitschrift für den dt. Unterricht* 31 (1917), 241 ff., insbesondere 243.

²So nach Seilers Terminologie; nach der Betz'schen Klassifizierung handelt es sich um Lehnbedeutungen.

über *Griechische Bedeutungslehnwörter im Latein*³ -- sehr scharfsinnig auf gewisse schwierigere Fälle hingewiesen, in denen "das Bildungslehnwort ...⁴ manchmal mit in anderer Bedeutung vorhandenen lateinischen Wörtern zusammen(fällt); vgl. oben *combilere*, *consurgere* und besonders *comperire*, wo sogar lautliche Gleichheit mit einem etymologisch total verschiedenen Wort herauskommt".⁵ Debrunner fügte dabei zwei weitere Beispiele hinzu, und zwar spätlat. *re-legere* "(vor)lesen", nach griech. ἀνα-γινώσκειν, und *potare* "tränken", nach griech. ποτίζειν, welche mit den älteren Zusammensetzungen *relegere* "noch einmal, von neuem lesen" bzw. *potare* "trinken" nur äußerlich identisch wären. Die Beurteilung solcher Fälle ist aus Debrunners zitierten Worten zu eruieren: *relegerere*² "(vor)lesen" ist direkt durch Nachahmung des fremden Musters entstanden und weist mit *relegere*¹ lediglich Homonymie auf; da das schon vorhandene Wort bei der Interferenz sicher nicht im Spiel war, darf man nicht von einer Bedeutungsentlehnung, sondern von einer echten Lehnübersetzung reden.

2. Wenn man von seltenen gelegentlichen Bemerkungen⁶ absieht, scheint diese Problematik bei der späteren Forschung wenig Beachtung gefunden zu haben. Nur bei einigen Slavisten -- die sich ja mit Sprachen beschäftigen, die in dieser Hinsicht reiches Material liefern -- findet sich eine eingehendere Auseinandersetzung mit diesen Fragen der Interferenz, obwohl die dabei vorgeschlagenen klassifikatorischen Kriterien

³Festschrift F. C. Andreas (Leipzig, 1916), 31 f.

⁴Darin folgte Debrunner Singers Terminologie: gemeint sind die Lehnübersetzungen von Seiler (und vielen anderen nach ihm).

⁵Das zitierte *com-perire* ist Nachbildung von griech. συν-ἀπόλλυσθαι (aaO., 30) und hat mit dem (teilweise) gleichlautenden Verb für "wahrnehmen, erfahren" selbstverständlich nichts zu tun.

⁶In diesem Zusammenhang sind vor allem H. V. Veltens Ausführungen (JEGPh 29, 1930, 338) in bezug auf got. *ga-kunnan* "nachgeben" (nach griech. συγ-γινώσκειν) zu erwähnen, das zum Teil mit *ga-kunnan* "erfahren" zusammenfällt. Auf diese Typologie ist auch Verf., *Incontri Linguistici* 1 (1974), 33 f. schon kurz eingegangen.

nicht ganz befriedigen. Nach K. Schumann⁷ wären nämlich als "gliedübersetzte Lehnbedeutungen" diejenigen Fälle zu registrieren, die man theoretisch entweder als Lehnübersetzungen oder als Lehnbedeutungen auffassen könnte, wie etwa akslav. *otpuštati* "los-/entlassen", dann "vergeben" nach dem Muster von griech. ἀφιέναι, oder dt. *Raumforschung*, zuerst "Wissenschaft der Raumordnung", dann nach engl. *space research* mit der entsprechenden Bedeutung ausgestattet: sind nun *otpuštati*² und *Raumforschung*² Neubildungen nach den fremden Mustern oder liegt einfach Bedeutungserweiterung von *otpuštati*¹ und *Raumforschung*¹ vor?

Auf die meisten Probleme, die diese Bildungen aufwerfen, geht Schumann allerdings kaum ein: wie der vorgeschlagene, sicher nicht glücklich gewählte Terminus zu erkennen gibt, kommt es ihm hauptsächlich darauf an, diejenigen Grenzfälle klassifikatorisch zu erfassen, die sich nicht problemlos in die anderen Gruppen von Interferenzerscheinungen einreihen lassen. Wenn es aber auch stimmt, daß Schumann eher praktische Gesichtspunkte im Auge hat und daß sein Klassifizierungsvorschlag eine Art Notlösung darstellt, so kommt ihm sicher das Verdienst zu, die Aufmerksamkeit der Interferenzforschung auf diese Problematik wieder gelenkt zu haben.

In jüngerer Zeit wurde Schumanns Gliederung auch von anderen Slavisten aufgegriffen: erwähnt seien hier E. Prunč,⁸ der einige slovenische Beispiele von "gliedübersetzten Lehnbedeutungen" besprochen hat, und vor allem M. Rammelmeyer,⁹ der in der Beurteilung des in Frage kommenden Materials einen korrekten Standpunkt einnimmt und die Lage mit diesen treffenden Worten darstellt: "Gerade bei den prefigierten Verben ist die Entscheidung, ob tatsächlich Lehnübersetzung vorliegt, häufig sehr schwierig, da hier die Schöpfung einer Lehnübersetzung oft

⁷Ztschr. f. slav. Phil. 32 (1965), 68.

⁸Das innere Lehngut in der slovenischen Schriftsprache (maschinenschriftl. Diss., Graz, 1967), 24 f. und 161 f.

⁹Die deutschen Lehnübersetzungen im Serbokroatischen (Wiesbaden, 1975), 122 und 136 f.

keine neue Lautgestalt in die Sprache bringt; das lautliche Ergebnis der Lehnübersetzung besteht bereits, ist aber mit einer anderen Bedeutung verbunden In diesen Fällen sieht es so aus, als nehme das Verb einfach eine weitere Bedeutung aus dem Deutschen an, d. h. als liege eine Lehnbedeutung vor. In Wirklichkeit ist jedoch das Verb Ergebnis echten Lehnübersetzens, und die lautliche Übereinstimmung mit einem bereits bestehenden Verb ist in der Regel rein zufällig" (aa0., 122).

3. Aus Rammelmeyers Gedankengang geht hervor, daß die lautliche Identität mit einem schon vor der Interferenz existierenden Sprachgebilde nicht ausschlaggebend ist, da die Annahme einer Lehnbedeutung unbedingt eine tatsächlich eingetretene Verbindung zwischen diesem Wort und dessen Vorbild voraussetzt (vgl. schon oben). Je größer aber der semantische Abstand zwischen diesen beiden ist, desto unwahrscheinlicher wird die Möglichkeit, daß jene Verbindung zustandekam und daß der zwischensprachliche Einfluß sich in der Bedeutungserweiterung des schon vorhandenen Wortes erschöpfte.

Serbokr. *izdati* "herausgeben" (mit Entsprechungen in allen slavischen Sprachen) kann auf keine Weise vom gleichlautenden Verb mit der Bedeutung "hervorbringen, weggeben, verraten" abgeleitet werden und muß daher durch Zusammenfügung von *iz* und *dati* (wahrscheinlich nach dem Muster von dt. *heraus-geben*) neugebildet worden sein. Ähnlich lit. *išdūoti* und *išdavikas* (nach dt. *herausgeben*, *Herausgeber*) mit den älteren Homophonen für "verraten", "Verräter" nur sekundär identisch: vgl. E. Hofmann in KZ 88 (1974), 292. Auch serbokr. *besvijestan* "bewußtlos" (Rammelmeyer aa0., 149) ist eher als neue Zusammensetzung nach dem deutschen Vorbild denn als (vom früher belegten *besvijestan* "dumm" ausgehende) Lehnbedeutung zu verstehen, und dasselbe gilt wahrscheinlich auch für *ravnodušan*, wohl nach dt. *gleichmütig*, da es auf akslav. *ravnodušъnъ* "gleichgesinnt" (nach griech. ἰσοψυχος) kaum zurückgeführt werden kann. Auch bei *iskazati* (*se*) "(sich) ausweisen" (Rammelmeyer aa0., 189) ist eine Motivation aus der wohl ursprünglichen Bedeutung "ausreden" usw. kaum glaubhaft. Zu got. *gakunnan* vgl. Anm. 6.

Aus ähnlich gelagerten Fällen folgt mit aller Deutlichkeit, daß Schumanns terminologischer Ansatz im Grunde als irreführend betrachtet werden muß. In der Tat handelt es sich dabei eben nicht um Lehnbedeutungen, da die neue Bedeutung aller Wahrscheinlichkeit nach *n i c h t* durch Erweiterung des ursprünglichen semantischen Fächers erklärt werden kann. Vielmehr ist das neue Kompositum unabhängig vom schon existierenden Wort entstanden und fällt mit diesem nur sekundär zusammen; es handelt sich also um eine Art Rekombosition, die eine echte Lehnbildung voraussetzt, so daß die Bezeichnung *r e k o m p o n i e r t e L e h n b i l d u n g e n* sich insgesamt als geeigneter erweist.

4. Es gibt allerdings eine Reihe von Fällen, in denen es objektiv schwierig ist, zu entscheiden, ob der Sprecher eine Verbindung zwischen dem schon vorhandenen Kompositum und dem fremden Muster hergestellt hat oder nicht: so etwa bei serbokr. slov. *izgledati* (s. Prunč aa0., 25 und Rammelmeyer aa0., 137), das mit dt. *aussehen* von Anfang an eine partielle semantische Übereinstimmung aufwies, bei dt. *Übermacht*, das aufgrund der älteren Bedeutung ziemlich leicht durch engl. *super-power* beeinflusst werden konnte¹⁰ usw. Es muß jedoch hervorgehoben werden, daß man hier nur insofern von "Grenzfällen" sprechen darf, als wir über keine geeigneten Informationen verfügen, die eine Entscheidung zwischen Lehnbedeutung und Lehnbildung gestatten: die Unsicherheit betrifft also unser Erkenntnisvermögen, nicht die Typologie der Erscheinungen.¹¹

¹⁰Also "Überlegenheit", später auch "Weltmacht", vgl. H. Kuhn in "Fragen der strukturellen Syntax und der kontrastiven Grammatik" (*Sprache der Gegenwart* 17, Düsseldorf, 1971), 196, wo auch der Fall von dt. *ungleich* "anders als" (nach engl. *unlike*) erwähnt wird.

¹¹Jedes Mal, wenn die neue Bedeutung mühelos aus der älteren hergeleitet werden kann, wird man aber mit Fug und Recht eine Lehnbedeutung annehmen dürfen: vgl. etwa got. *dis-tahjan* "ausstreuen", dann "verschwenden" (nach griech. *δυσ-σχορπύζειν*) und die Bemerkung bei Velten aa0., 337.

Andererseits muß man auch bedenken, daß genaue Bauentsprechung bei Komposita an sich keine Gewähr für die Annahme einer Lehnbildung ist, da die Interferenz sich auch auf Bedeutungsentlehnung seitens eines schon bestehenden zusammengesetzten Wortes beschränken kann.¹² Manchmal genügt sogar eine genaue strukturelle Entsprechung zwischen zwei unabhängig entstandenen Komposita der Modell- und der Replica-Sprache, um eine beträchtliche semantische Divergenz zu überbrücken, mit der Folge, daß selbst unter diesen nicht günstigen Umständen eine Lehnbedeutung entstand: vgl. etwa serbokr. *na-stupiti* "entstehen, beginnen", dann "eine Strafe bzw. einen Dienst antreten", da es aufgrund der inneren Struktur eben mit dt. *an-treten* gleichgesetzt wurde.¹³ In ähnlicher Weise dürfte auch *do-živjeti*, ursprünglich "zu Ende leben", die Bedeutung von dt. *er-leben* übernommen haben.

Bei anderer Gelegenheit¹⁴ haben wir auf die Rolle hingewiesen, die bei manchen semantischen Calques der äußeren, auch zufälligen Ähnlichkeit zukommt, insofern als diese teilweise Übereinstimmung manchmal auch Wörter in Verbindung bringt, die *stricto sensu* keine gemeinsame Bedeutungssphäre aufweisen und deshalb die übliche Voraussetzung für das Zustandekommen einer Lehnbedeutung nicht erfüllen. Die gleiche Funktion, die Bedeutungsübernahme zu begünstigen, kann nun auch der strukturellen Parallelität zukommen.

5. Durch Lehnbildung entstehen bekanntlich nicht nur Zusammen-

¹²*Incontri Linguistici* 1 (1974), 34 f. mit Verweis auf R. N. Werth, *Proceedings of the XIth International Congress of Linguists*, Vol. II (Bologna, 1974), 1088 f. Vgl. ferner die Ausführungen von F. L. Woods in *JEGPh* 56 (1957), 42 ff., der verschiedene vermeintliche Lehnbildungen im Althochdeutschen eher für Bedeutungsentlehnungen von schon vorhandenen Wörtern hält.

¹³Mit Recht bemerkt Rammelmeyer aaO., 136: "Der Hauptgrund für diese Art der *Lehnbedeutung* ist hier nicht die semantische, sondern die formale Übereinstimmung des serbokroatischen und des deutschen Wortes".

¹⁴*Incontri Linguistici* 3/1 (1976-77), 9 ff.

setzungen, sondern auch Ableitungen (vgl. *Inc. Ling.* 1, 36 ff., wo zwischen "calchi strutturali di composizione" und "calchi strutturali di derivazione" unterschieden wird), sofern man nicht von vornherein die Ableitungen als Morphemkombinationen, d. h. auch als Zusammensetzungen auffaßt. Nun kann es geschehen, daß eine Ableitung in Anlehnung an ein fremdes (Ableitungs)muster geschaffen wird und daß diese Neubildung zufällig mit einem schon bestehenden Wort identisch ist: auch in diesem Fall wäre die Annahme einer Lehnbedeutung unbegründet.

Serbokr. *listati* "blättern" wird mit *listati* "sich belauben" (Rammelmeyer aa0., 216) kaum etwas zu tun haben, obwohl beide homophonen Wörter von der selben Basis abgeleitet sind: im ersteren Fall handelt es sich aber um eine Neubildung, die auf interlinguistischer Grundlage nach der Proportion *Blatt* : *blättern* = *list* : *x* zustandegekommen ist. Ähnlich zu beurteilen sind wohl serbokr. *mugić* (1. "vermögend, reich", 2. "möglich": letztere Bedeutung wahrscheinlich nach dt. *möglich*, das auch das Vorbild für die n e u e Ableitung von *moći* geliefert hätte, vgl. Rammelmeyer aa0., 222); ferner möglicherweise auch lat. *laboriosus* (nach *πολύτλας* bei Horaz), das früher nur im Sinne von "schwer, peinlich" o. dgl. belegt ist, und neutest. griech. *ἐπισκοπή* "Bestrafung", das nicht durch Bedeutungserweiterung, sondern als Neubildung aus *ἐπισκοπέω* nach dem Verhältnis *ברק* /biqqēr/ : *ברקת* /biqqōret/ im Hebräischen erklärt werden dürfte.¹⁵ Typologisch gehören solche Fälle mit den oben besprochenen Komposita insofern zusammen, als auch hier eine g e t a r n - t e L e h n b i l d u n g vorliegt: der Terminus "rekomponierte Lehnbildungen" dürfte sich also auch für dieses Material eignen, zumal Ableitungen oft als Morphemzusammensetzungen aufgefaßt werden (mag diese Interpretation auch nicht widerspruchsfrei sein).

Wie bei allen Erscheinungen des "inneren" Sprachkontakts ist deshalb auch bei diesen "maskierten" Neubildungen die Semantik, nicht die äußere Identität für die richtige Klassifizierung ausschlaggebend.

¹⁵ Anders degegen U. Rapallo, *Calchi ebraichi nelle antiche versioni del "Levitico"* (= *Studi semitici* 39, Roma, 1971), 66 f.

ALTAIC ORIGINS OF THE JAPANESE VERB CLASSES*

ROY ANDREW MILLER
University of Washington

Even though the original Altaic linguistic unity apparently had no distinctively differentiated verbal conjugational classes that could have been inherited as such by the descendant languages (Menges 1978: 390 [cf. Menges 1968b:79-80]), the Tungus languages early in their history (and perhaps even before their initial separation from proto-Altaic [pA]) initiated a series of morphological realignments and differentiations that were eventually to result in the rather rigidly compartmentalized verbal categories of the modern Tungus languages. These Tungus innovations may be demonstrated to have resulted from a relatively small number of sound changes, particularly the sound changes involved in the suffixation of the proto-Tungus (pTg) Nomen aoristi (NA) **+ra* to verbal roots or stems; and the morphological differentiations thus set into motion eventually resulted in sets of forms in the Tungus languages that are often so rigidly separated from one another that it is easy to understand why they have even been misunderstood as evidence for the existence of original conjugational classes in pTg (e.g., Benzing 1955:1071f.,

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§171f., refuted in Menges 1968b and 1978, *passim.*, but also as early as Menges 1943, cited in Benzing, *loc. cit.*). Japanese, in common with the other Altaic languages, did not of course inherit its verbal conjugational classes from pA, if only because there were no original pA classes to inherit; like the Tungus languages, Japanese developed its verbal classes independently. Nevertheless, it can be demonstrated that both the discrete morphological elements that entered into these Japanese developments, as well as the generalized morphological processes that eventually resulted in their formation, are both of Altaic origin, and moreover that both have particularly close, and historically significant, Tungus parallels.

The Old Japanese (OJ) verb displays eight morphologically distinct verb classes; these eight classes stand in regular, easily stated relationships to, e.g., the verb classes in the modern standard language of Tokyo, or to any of the other modern dialects, as well as to the verb classes in any of the earlier historical stages of the language attested in written records, e.g., Middle Japanese (MJ). The eight verb classes of OJ also account for the morphological categories of the verb in the various Ryūkyū (R) languages, with a few important reservations and exceptions, to which we shall return near the conclusion of the present paper. At any rate, the eight OJ verb classes, as arranged by the traditional Japanese grammarians, offer a convenient and rational starting point for the study of the historical origin of the entire system.

Important work has already been done with these OJ materials, mostly in Japan, in terms of the technique of internal reconstruction (especially by Ōno 1953, somewhat updated in Ōno 1964 and 1977; bibliography of most Japanese contributions in Yamaguchi 1976, other non-Japanese items cited in Miller 1967 *passim.*, and Wenck 1976-77). Study along these lines takes us part of the way back into the pre-history of the language, and it allows us to establish data somewhat prior to that in our earliest texts; but internal reconstruction alone cannot provide us with an analysis that is genuinely *historisch-erklärend* so long as it is restricted to Japanese linguistic data alone. This follows from the

major methodological limitation of the technique of internal reconstruction itself, i.e., its inherent inability to provide for the significant discrimination between two or more equally satisfactory ("correct") historical postulations for the origin of a given attested form. This limitation can only be overcome by adding to internal reconstruction the necessary further, and truly *historisch-erklärende* dimension, that only comparisons with non-Japanese linguistic materials from the other Altaic languages, and particularly from the Tungus languages, can contribute.

But while most of the work to date on the history of the Japanese verb classes has limited itself to Japanese materials alone, and to their internal reconstruction, there have been important exceptions. Certain aspects of the close historical connections that we now understand to exist between the Japanese verb classes and verb formations in Tungus in particular, as well as with Altaic in the broader sense, have been noted by Japanese scholars for some time. Hattori (1949:62) is a laconic but important early notice, as was also Murayama (1958:230). Later, Murayama set forth the essentials of the Japanese-Tungus verb relationship in a concise but admirably detailed note (1976) that deftly summed up the essentials of the question, particularly in its important clarification of the seminal role of the inherited pTg Na in **+ra-* and Participium aoristi (Pa) in pTg **+rǝ-* in the formation of the Japanese verb as we know it from the earliest texts. Most recently Murayama has further clarified the entire question (1978:259-92; the chapter in question is entitled ...*Oboegaki*, i.e., "Mémoire", and the implied allusion to Saussure's *Mémoire sur le système primitif des voyelles...* is completely justified; one day Murayama's 1978 *Oboegaki* will be cited in Altaic handbooks in much the same way that Saussure's 1879 *Mémoire* is honored by Indo-Europeanists). Particularly in the light of Murayama's most recent work, all that now remains to be done is to fill in the details. In the course of doing this, we shall be able to clarify the morphological processes by means of which, out of inherited Altaic morphological materials and in parallel with inherited Tungus morphological processes, the eight verb classes of our OJ text-corpus came into exist-

ence.

In general terms, the comparative, i.e., the *historisch-erklärende* study of the Japanese verb (as distinguished from mere internal reconstruction of solely Japanese materials) naturally divides up into two major categories, one concerned with the historical origin of the Japanese verb classes proper, the other with the historical origin of the Japanese system of *Verbstammbildungslehre*, including the suffixation processes that served for the expression of the Genus verbi ("voice"). Old Japanese also inherited both the forms as well as the processes of its *Verbstammbildungslehre* from the original pA, although here again the Japanese inheritance of pA becomes fully intelligible only when viewed from the perspective of pTg. In the present paper our principal concern is with the former, but the latter can hardly be isolated from it, and so we shall, in what follows, also touch from time to time upon the historical origins, in pA, of the Japanese *Verbstammbildungslehre*.

Of the eight verb classes of OJ, four are major categories comprising significantly large numbers of verbs, while four are minor categories, each with only one or at the most two members. The four major classes further subdivide into two subcategories: an athematic class with stem or root in final-consonant, and three thematic classes where the stem or root ends in a vowel. This vowel was originally *+a-* in the first thematic class, **+u-* in the second (which vowel was itself secondarily differentiated into *+ö-* or *+u-* by the time of the earliest OJ texts), and *+i-* in the third. The overall athematic *vs.* thematic morphological dichotomy is paralleled by a major semantic cleavage: the athematic verbs are generally and typically transitive, and transitivity was the original semantic marking of this category by means of which it contrasted with the thematics. The thematics for their part were essentially medio-passives. Since over and above their distinguishing medio-passivity many of the thematics also have some element of transivity in their meaning, and particularly since the thematic verbs may often be glossed by transitive verbs in other languages, it is important at the outset not to confuse them with the overall class-meaning of the athe-

metics.

Central to the original semantic contrast between these two categories was an aspect-like feature of meaning unique to the thematics. This feature further specified, even in the case of verbs that are nominally transitive in their meaning, certain precise qualities in the result of the action or in the state or status brought about by the verb in question, often in terms of its benefit to, continuous relationship with, or other more or less lasting association toward, the actor. The thematic *vs.* athematic semantic contrast may be most strikingly demonstrated when the same original root may be identified underlying later verbs in both categories: OJ *nuk-* (athematic; MJ *nug-*) "remove clothing, covering", *vs.* MJ *nug+a-i-* > *nugě-* "be stripped (of clothing, covering)"; *nur-* "paint over, coat a surface", but *nur+a-i-* > *nure-* "be smeared, covered with moisture". This same semantic dichotomy between athematic and thematic does not obtain in the four minor verb class categories, which happen also to include various verbs for "to be". Comparison with related languages shows that these minor categories originated in morphological contaminations or cross-overs between original thematic and athematic categories, or that they arose under other circumstances that are historically explicable; and all eight verb classes, major and minor alike, go back to inherited morphological formations that employed inherited morphological elements.

The athematic verbs of OJ, in root- or stem-final consonant (the *yodan katsuyō* verbs of the traditional grammar§) have a common class-meaning of transitivity, typically marked by the employment of the OJ grammatical particle (or case-marker) *wo*, identical and cognate with the pTg accusative in *-wa/-ba/-ma* (first equated with OJ *wo* by Menges 1960:33f., and most recently also treated by Murayama 1976:186-7). Statistically, the athematics have always been the predominant class of verbs in the language; and this single class, from among the total of eight different OJ verb classes, probably accounts for *ca.* 60% of the total verb inventory, not only in the early texts, but in later stages of the language as well. In the position of the final consonant

that distinguishes the athematics are found OJ *-r-*, *-F-*, *-k-*, *-s-*, *-m-*, *-g-*, *-t-*, and *-b-*, but the first five of these consonants as here listed account for *ca.* 80% of the athematic verbs (statistics on the athematics from Yamaguchi in Matsumura [1971:309^C and 894^C]; and on the distribution of the final consonants in Yoshida [1976:101f. and 114f.], together with other valuable statistical summations). Historically, this striking statistical preponderance of the athematics within the Japanese verb inventory is to be explained by their wide range of origins; large numbers of verbs from what were originally fairly evenly distributed sources converged into this class before the time of the earliest texts, resulting in a statistical imbalance that is only apparent, not real, since it yields quite readily to historical explanation. The same is true of the preponderant role of final *-r-* among these verbs, to be explained by the large number of historical sources that may be demonstrated for this OJ phoneme in general, as well as for this OJ morpheme in particular.

A few of the OJ athematics were inherited intact from pA, but statistically speaking such forms are the exception and not the rule; most of the athematics may instead be shown to have originated in a process of secondary verb-stem derivation either in pA, or somewhere between pA and pre-OJ (pOJ), or in pOJ itself. The process of verb-stem derivation by suffixation was, with a few possible exceptions, no longer productive in OJ, but comparisons with the other languages show that it did continue to be a productive morphological process throughout most of the history of the Altaic linguistic unity. Thus, what would otherwise, and in purely Japanese terms have to be regarded as unanalyzable primary athematic roots (of the general type and order of **kak-*, **tar-*, etc.) generally are revealed, by the comparative method, to have resulted rather from the prior stem-suffixation of derivational morphemes to earlier, and still simpler, roots (i.e., **katk-*, **tatr-*, etc.). The situation is exactly analogous to the role of comparison with Korean *vis-à-vis* Turkic, as remarked upon by Ramstedt ("... einige vom türkischen Standpunkt aus offenbar primäre Verba sekundär erscheinen,

wenn man ihre koreanischen Entsprechungen in Vergleich zieht" [Ramstedt/Aalto 1952:2.164, §80]). The absence of OJ *-d-*, *-n-*, *-y-*, and *-w-* from the inventory of final consonants in the OJ athematics is significant, since these phonemes are at the same time morphemes of secondary verb-stem derivation that find their place separately in the thematic, medio-passive, classes, out of semantic considerations.

As already noted, the statistical preponderance of OJ athematics in *-r-* finds its historical explanation in the diverse historical sources both for this phoneme, and for the OJ verb-stem derivational suffix of the same shape: OJ *-r-* in the athematics may variously go back to original root-final pA **-r-*, **-r₂-*, or **-l-*, or to either of those three as stem suffixes (**+r-*, **+r₂-*, **+l-*). Primary and original pA **-r-* is reflected in OJ *kŷr-* "cut, sever; slay", from pA **kŷr-* "id." (AEOJ, 1.109, 113, §16); **-r₂-* is seen in OJ *kŷr-* "make fire by friction", pA **kŷr₂-* (AEOJ, 1.108; Miller 1975:163; with these two OJ verbs cf. Tk. *qŷr-* "destroy", against Tk. *qŷz-* "catch fire, become hot, warm"), and original **-l-* in OJ *yar-* "give", pA **dol-* "id." (JOAL, 86; VG, 75, 134). But many, perhaps most, cases of OJ athematics in *-r-* are secondary formations: OJ *kör-* "congeal, harden, freeze" would appear to be a primary root within Japanese, but comparison with the other languages shows that it must be analyzed as pA **kō-* "freeze, congeal" (or pA **kō* "frost, ice") plus *-r-* in all the languages, Japanese included (AEOJ, 1.231, §28). OJ *wor-* "be, exist" belongs to one of the four minor classes of the verb system, not to the athematics proper, since its paradigm involves both thematic and athematic elements; the verb is traditionally treated in Japanese grammar as a "contraction" of *wi-* + *ar-*, an analysis that is impossible both descriptively and historically (Menges 1975:20f.). OJ *wor-* is hardly to be treated apart from Tk. *bol-* "become, be", and Mo. *bol-* "id.", and so the *-r-* of this form either continues an original pA **-l-*, or, depending upon the analysis in Turkic and elsewhere in Altaic, a stem-suffixed **+l-* (e.g., Menges 1968: 145-6). But beyond any question the most prolific sources for OJ athematics in *-r-* were inherited formations involving the OJ reflexes of the

pTg Nomen aoristi in $*_{ra}$ - and the pTg Participium aoristi in $*_{r}^{\check{r}}-$, already noted above; many athematics in $-r-$ are to be traced to such formations, e.g., OJ i_r- "enter", to be understood as $i_{ra}(a, i)-$ in the light of pTg $*_{\check{r}}-$ (Murayama 1976:186); Murayama, while admitting that the etymology would involve "a rare Ablaut" (1978:277-8) seeks nevertheless to associate OJ $sir-$ "know, possess, rule" with pTg $*_{s\check{a}}-$ "know". If it were possible to condone this etymology, in its favor would be the fashion in which OJ $sir-$ would display a formation quite parallel to that seen in Nan. $s\check{a}ri$, Lam. $h\check{a}r\check{i}$ (Menges 1968b:205; Benzing 1955b:179) "ein Bekannter". But against such a view there is a considerable weight of argument. OJ $sir-$ seems rather to go etymologically with Tk. $s\check{a}z-$ "feel, be aware of", Mo. $seri-$, $sere-$ "id.", Tg. $seri-$ "be alert to, feel", and all < pA $*_{ser_2}-$. But OJ $ar-$ "be, exist", another of the minor verb classes, surely reflects pA $*_{\check{a}}-$ (Poppe 1976:471), in a formation paralleled in Turkic (Menges 1968:145), so also OJ $wi-$ "be, exist", where the $-r-$ forms of this verb (a member of one of the thematic classes) are similarly the result of Na and/or Pa-like affixation to an original pA $*_{bi}-$ (Menges 1968:45), attested for the original language alongside pA $*_{b\check{u}}-$ (with both the pA forms having representation in OJ, and in turn explaining OJ $wi-$ alongside OJ $[w]u[-]$). Comparisons such as these clarify the morphologically secondary nature of most cases of OJ athematics in $-r-$, but they do not always make it possible to state with authority the precise historical source of the $_{ra}$ - thus isolated. (Another question that is involved here but which must be set aside for discussion elsewhere is the way in which wider and wider comparison tends to turn up evidence for shorter and shorter roots [cf. Menges 1961:1f.]). If the Murayama etymology for OJ $sir-$ "know, etc." could be maintained, there would be little question but that the inherited pTg aorist formation became, in this word at least, the source of an OJ athematic stem-final consonant -- either through interparadigmatic analogy, or because the inherited morpheme was simply $*_r$, and not either $*_{ra}$ or $*_{ri}$, as suggested many years ago by Hattori (1949:62). In other cases it is difficult -- often impossible -- to

distinguish between these pTg-aorist related formations and what are probably still earlier formations involving the pA verb-stem suffix $*+l-$, a formant for both denominal and deverbal factitives: thus, OJ *mur-* "paint, coat a surface, esp. with a liquid", can hardly be separated from Ew. *lū* "resin, gum", and also Ew. *lū-* "seal holes, crevices with resin" (Menges 1968b:196-7; 1978:389); the comparison shows that the OJ form is a secondary formation, *mur-*; but it is difficult to decide, since the analysis from this point on must necessarily be based largely upon meaning, whether we have here the inherited *-r-* from the pTg aorists, or the inherited pA $*+l-$ as a factitive. Similarly, if indeed the forms go together, cf. Ew. *mū* "water", *mū-* "leak (of boats, boots)" with NJ *mor-* "leak"; only the modern language has an athematic for this verb, OJ having variously the thematics *mor-i-* < $*moru-$ and *mor-e-* < $*mora-$. Other important sources for the *-r-* of the athematics are inherited pA formations in $*+r-$ in the sense of "become...", e.g., OJ *akar-* "become bright, colored", from *aka* "red, brightness", *takar-* "become, be high", from *taka* "high", and *masar-* "excel", from *masa* "correct". PA $*+l-$ factitive may often be distinguished in Japanese from pA $*+r-$ "become..." not only in terms of its meaning but also because in the case of the $*+l-$ morpheme, an original voiceless stop in the underlying noun became voiced, so that, with original $*+l-$, we find *tugar-* "attach, connect", from *tuka* "haft", *mōdōr-* "return" from *mōtō* "origin", *kagīr-* "set limits" from *kakī* "a fence", and *sagar-* "droop, hang down" from *saka* "an incline", against e.g. *sakar-* "defy, run counter to", also from *saka*, but with original $*+r-$.

Equally important comparative evidence for original $*+l-$ is afforded by the numerous OJ athematic pairs in which the alternation of stem-final *-r-* with *-s-* in OJ serves to mark an intransitive-transitive, or endoactive-exoactive, distinction (JOAL, 133f.); in such pairs, both members are always secondary-stem formations, the one in OJ *-r-* always going back to pA $*+l-$ because the one in OJ *-s-* always goes back to pA $*+l_2-$; thus, OJ *tar-* "suffice, be sufficient" and *tas-* "make sufficient" not only go regularly with OTk. *tōl-*, *tōš-*, but existing as they do as

paired forms in Japanese, they simultaneously point to the analysis of the Turkic forms as themselves secondary, i.e., $*t\bar{o}- +l-$, $+š-$, the former "als Passivum (oder à la rigueur auch Medium) auf $-l-$ von $*t\bar{o}-$ angesehen werden, wozu das Cooperativum $*t\bar{o}-š-$...intransitiv sowie transitiv gebraucht..." (Menges 1975:48). Similarly, the Japanese athematics in $-r-$ / $-s-$ doublets often preserve evidence for secondary formations in earlier stages of Altaic even in cases where most of the other languages have only preserved a single member of the set, thus Mo. *tuγ-ul-* "durchgehen, die andere Seite erreichen" and OTk. *topul-* "durchgehen" (VG 47, 131) permit the reconstruction of pA $*topúl-$ "pass through, reach the other side" (Street 1974:28); but the Japanese cognate is the set of paired forms, OJ *tōFōr-* "pass through, along", and OJ *tōFōs-* "make to pass along, pass through (tr.)", and this set of Japanese athematics shows that we have to deal here, in pA, with secondary stems $*+l-$ and $*+l_2-$, for pA $*topúl-l-$, $*topúl-l_2-$, even in the absence of $-š-$ forms from Turkic. In this way, many of the Japanese athematics in $-s-$ are secondary formations, a significant number of which go back to the inherited pA $*-l_2-$ Cooperativum. In many other forms, where Japanese $-s-$ has a factitive or causative force, particularly in large numbers of secondary athematics based upon underlying thematics (thus, *idas-* "put out", a formation on *ida-* "come out", itself thematic in $+d-a-$ and ultimately also going with pTg $*z-$), it is still tempting to continue to look for traces of an old pA "Verbum universale" in $*se-$, "in noch weiterem Sinne als das deutsche *tun* oder das englische *to do*" (Ramstedt, ed. Aalto 2. §90, 187-9 [1952]). But Ramstedt's etymological sketch, *loc. cit.*, must now be reworked, if only to separate such a $*se-$ "do" from the ultimate Altaic source of pTg $*sā-$, which *loc. cit.* and also earlier (Ramstedt 1949:38) became deeply intertwined with one another in Ramstedt's treatment. Poppe, *HJAS* 13.571 (1950), understandably found the etymology "open to question", and one is surprised that it was later accepted by Yi Ki-mun, *UAsJbr* 30.116 (1958), apparently on the grounds that Kor. *ha-* "do; say" would help to bridge the semantic gap presented by the other languages and their forms. But the correspond-

ence Kor. *h-* : pA **s-* remains unexplained; while the Ma. doublet *se-* "say, call, mean", but Ma. *sa-* "know, understand" -- if truly a doublet and not simply two different etyma -- might in its turn attest to a pTg Ablaut set that would cast into a somewhat better light the difficult etymology (see above) that attempts to connect OJ *sir-* "know, etc." and pTg **sā-* "know".

A few of the athematics in OJ *-k-*, *-g-*, and *-t-* are apparently original inherited roots in that shape, particularly in the case of the monosyllables (e.g., OJ *nuk-* "remove clothing", pTg **nuk-* > **luk-* [Murayama 1978:282; Tungus forms in *TMS* 1.507b]); but comparison with the other languages shows that even many of the Japanese athematic monosyllabic roots, and most of the polysyllables, are actually secondary formations, derived verb stems in pA **+k-*, **+g-*, and **+t-*. Of these, the first was widely employed for forming secondary stems, typically being suffixed to a noun to form a verb that then expressed an action directly employing that noun, or some action otherwise closely related in meaning to that noun; the second was used in similar fashion, but with the added semantic feature of causativity in many instances. Phonological changes in most of the other languages make it difficult to distinguish between original pA **+k-* and **+g-* in many of their functions; fortunately the Japanese evidence keeps them carefully apart, and hence throws additional light upon the earlier formations in the other languages as well. PA **+t-* was used in both denominal and deverbal formations, deriving transitive verbs indicating that an action relating to the original noun or verb was performed in a sudden, jolting, or otherwise particularly conclusive fashion; the rather unusual semantic marking of this suffix makes it relatively easy to trace in most of the languages, including Japanese. (Ramstedt [1912] reconstructs the system of verb-stem derivation for pA largely upon the basis of Mo. and Tk. evidence, and of course without reference to Japanese or Korean; but the Tungus evidence mostly missing from Ramstedt [1912] may now be supplied from Poppe [1972], so that these two papers, when taken together, now provide the single most convincing

body of evidence for the existence of an original Altaic linguistic unity.)

Thus, if we limit ourselves to Japanese data, OJ *isik-* "pursue, overtake" cannot be further analyzed; but comparison shows the form to be secondary, along the lines of *is(+i)k-*, i.e., a denominal verb in pA **+k-*, etymologically identical in every detail of its formation with OTk. *tašiq-* "herauskommen", itself a denominal verb in *-iq-* from *taš* "Außenseite"; on the phonology of the underlying noun, cf. OJ *isi* "stone", OTk. *tāš*, pA **tāl₂* "id." Japanese athematics from pA **+k-* include such formations as *wanak-* "throttle, strangle", from *wana* "noose, snare", and *miđuk-* "soak, steep", from *miđu* "water" (cf. Kor. *mulk-* "be watery, thin", from *mul* "water", and with the same suffix, but a different noun, Tk. *sūq-* "become wet"). From pA **+g-* are such forms as *matag-* "straddle" from *mata* "crotch", *Fag-* "make an arrow by fitting a feather to a shaft", from *Fa* "feather", and *tunag-* "pursue quarry in the hunt" from *tuna* "rope, hawser". Most productive was the employment of these same **+k-* and **+g-* as secondary suffixes of derivation upon secondary thematic bases which were themselves often formed upon original, and presumably primary, monosyllabic athematics. In such formations the causative semantic markings of the formations are especially to be observed; thus, *Faru+k-* "cause something to be opened wide", a secondary athematic in **+k-* from the thematic base *Faru-*, itself secondary, with the thematic vowel *-u-* (on which, see below) suffixed to the primary athematic *Far-* "open up, esp. new land"; similarly, *matak-* "be made to wait upon", eventually from *mat-* "wait for, on". Additionally, both *+k-* and *+g-* themselves also enter into an enormous number of further secondary formations, partly as secondary thematics (in *+k-a-*, *+g-a-*, etc.), partly as the prior elements in a rich repertory of compound suffixes of further stem derivation (as *+ka-r-*, *+ga-r-*, *+ga-F-*, etc.), and thus account for a considerable segment of the lexicon, particularly in later stages of the language.

Primary monosyllabic roots in original *-t-* are not unknown (e.g., OJ *Fłt-* "steep, soak"), but most athematics in *-t-*, particularly when

polysyllabic, are inherited secondary derivatives in pA $*+t-$, e.g., *wakat-* "break apart, split, rip open", cf. *wakar-* "become separate"; *sakat-* "butcher, kill", cf. *sakar-* "be split apart" (both on thematics in $-a-$ from the original, primary athematic *sak-* "split apart, down the middle [tr.]", cf. Ma. *šaka* "forked spear", *šakana-* "crack [of ice]"); *Fagat-* "destroy, tear completely out", eventually from *Fag-* "flay", and *Fanat-* "let fly (as an arrow from a bow), emit (rays of light)", from *Fana-* "bound, spring up" (which may itself however be secondary, in $*-n-a-$, a Japanese thematic in $-a-$ on an inherited pA $*+n-$ reflexive).

Finally, with the three labial classes of the athematics in $-F-$, $-b-$, and $-m-$, much the same situation obtains: few, if any, of these forms are originally primary, even among the monosyllabics. The forms in $-b-$ and $-m-$ are generally the more difficult to explain. Japanese scholarship has for various reasons suspected a number of these verbs of being the result of early contractions within Japanese itself (e.g., *tab-* "bestow [superior to inferior]", from *tamaF-*, itself secondary, *tama+F-*, cf. pTg $*tama-$ "to pay a price" [Benzing 1955:1006, §72]), and even in Tungusic terms, an early contraction of a Japanese reflex of the pTg $*+n-$ for imperfective aspect with Japanese $+F-$ < pTg $*+p-$ (as immediately below) would fit the semantics of many athematics in $-b-$ quite well (cf., with Benzing's examples, *loc. cit.*, OJ *asōb-* "amuse, play"). Few if any athematics in $-m-$ appear to be original: *sum-* "live, dwell" is *su* "nest" $+m-$, *Fa+m-* "chew" from *Fa* "tooth", *Fara+m-* "become pregnant", from *Fara* "belly".

But among the three labials, it is $-F-$ that most clearly continues an inherited Tungus category, almost always representing the regular OJ reflex of the pTg reflexive in $*+p-$ (Benzing 1955:1070, §130,t), which in the Japanese materials early took on a distinctive semantic feature of the durative or imperfective aspect. This is the case even in some monosyllabic roots that otherwise, and within Japanese alone would appear to be primary, but almost surely are not (e.g., OJ *aF-* "join together, meet, encounter", with pA $*ā-$ "be, exist", plus the

suffix in question); and almost all polysyllabic verbs in $-F-$ are clearly secondary formations continuing pTg $*+p-$. Thus, Ew. *ula-* and Lam. *ul-* "moisten" represent a truly primary root not represented as such in Japanese; but secondary Ew. *ulap-* and Lam. *ulab-* "become moist", are both in $*+p-$, and both show exactly the same formation that is seen in OJ *uruF-* "become wet, damp", which form is thereby itself shown to be secondary, *uru+F-*. Similarly with late OJ *tara+F-* "have (all conditions, needs) filled, in order; be satisfied", which is an athematic in $+F-$ based upon a secondary thematic *tar-a-*, going in turn with *tar-* "be full, satisfied", already noted above in connection with athematics in $-s-$ and $-r-$. The formation in Japanese $+F-$ is exactly and etymologically paralleled in pTg $*\check{z}alu+p-$, Ew. *\check{z}alup-*, Go. *\check{z}alop-*, Olč. *\check{z}alpu-*, Ma. *jalu-* (< **jalup-*), all meaning "be full" (Benzing, *loc. cit.*; Menges 1975:48, on the Tungus forms and their evidence for a "kausativ-passiven Suffix $-w/-b/-p-$ "). The correct etymological identification of OJ $+F-$ is an important question, partly because this suffix is frequently encountered in OJ athematics, and also because of its important role in the formation of a considerable inventory of extremely productive compound suffixes of secondary verb stem derivation, e.g., $+naF-$, $+raF-$, $+gaF-$, which play an important role in the Japanese lexicon, particularly in the later stages of the history of the language. Unfortunately, at the present state of our control of these matters, it is not always a simple matter to distinguish between the various possible historical sources for the labials $-F-$, $-b-$, and $-m-$ (cf. in this connection especially the Tungus examples, and reconstructions, in Poppe 1972, an important contribution that adds to and completes the reconstructions in Ramstedt 1912).

Thus, one is tempted to identify the $+F-$ of thematic OJ *köröF-* "rebuken, reprove, scold" with the $*+b(\check{u}-)$ that Poppe reconstructs (*loc. cit.*); in this case, the OJ word would represent the same inherited formation as Ma. *gelebu*, causative to Ma. *gele-* "Angst kriegen", to which it would be closely parallel in both form and meaning (with OJ *köröF-* a causative in $+F-$ < $*+b-$ upon OJ *körö-* "learn, grow wiser by

(bitter) experience", in the sense of "cause someone to learn, grow wiser by experience", and hence "rebuke, reprove, scold"; we know from other evidence that OJ *körö-* itself is indeed cognate with the pA **gēle-* "fear, be afraid" that underlies the Manchu form, as well as its many Tungus cognates (Murayama 1978:261f., Benzing 1955:985; Street 1974:13; *VG* 25, 106; but problems remain in establishing the correct vowel correspondence between OJ and pTg for this important word, complicated by the existence of the doublet Ma. *gele-* "Angst kriegen", but also Ma. *golo-* "be startled, be scared"). As is too often the case in the history of most of the Altaic languages, early shifts back and forth within the class of labial consonants appear to have considerably complicated the history of all these forms, and much remains to be done in establishing the direct lineage of their origins.

The three major thematic classes of the OJ verb contrast with the athematics in forms as well as in meanings. Formally, the thematics incorporate polysyllabic vowel-final stems, stems that are themselves morphologically secondary, and that may generally be derived from an underlying root or stem in a final consonant to which a thematic vowel has been suffixed. (This is the general pattern for these forms, even though the underlying, and simpler, athematic in a final consonant cannot always be cited from texts.)

The thematic vowels are OJ *+a-* in the first thematic class (the *shimo nidan katsuyō* of the Japanese grammars), pOJ **+u-* (which however appears in the texts as OJ *+ō-* or *+u-*, mostly due to vowel-harmony assimilations to the vowel in the first syllable of a given form) in the second thematic class (*kami nidan katsuyō*), and pOJ **+i-* in the third thematic class (*kami ichidan katsuyō*), where however the thematic vowel appears in the texts as OJ *-i-* or *-i-*, presumably contracted from earlier **+i-* + *-i-*, and possibly having passed through a secondary stage as **+ī-*.

Over and above their distinctive thematic vowels, the first and second thematic classes have a further formal distinction, in the restrictions that govern the identity of the consonant immediately preceding

the thematic vowel. In the first class, we find not only the eight consonants of the athematics (the *k*, *g*, *s*, *t*, *F*, *b*, *m*, and *r* already treated above), but also four additional consonants never found in root- or stem-final position in the athematics: *-d-*, *-n-*, *-y-*, and *-w-*. In the second thematic class, only seven of the consonants from the athematics appear (the *-s-* that characteristically goes with the typically transitive, exocentric athematics as a class is here significantly missing); to these the second class then adds only *-d-* and *-y-*, but not the *-n-* and *-w-* of the first athematics. This consonantal distribution pattern correlates with the overall semantic configurations of the thematics as they contrast with the athematics; thus, the *-n-* that is a distinctive feature of the first thematic class in *+a-* is the Japanese inheritance of the pA **+n-* reflexive, but one that came into Japanese in the characteristic shape **+n-a-* for which it must be reconstructed for pTg (Poppe 1972:140f.).

Semantically, all three classes of the thematics contrast as a group with the athematics. The athematics are essentially transitive and exocentric, while the thematics are essentially endocentric, or medio-passive. It was the function of the thematic vowels, especially in the first two thematic classes, to delimit with considerable precision a number of further semantic shadings of this overall endocentric or medio-passive class-meaning, particularly in terms of the relationship of the subject, or actor, to the results or effects of the act or action specified in the verb itself. (The historical analysis of the third thematic class presents certain problems unique to this set of forms, to which we shall return at the end of the present discussion; meanwhile, the general statements that follow have reference only to the first and second thematic classes, unless otherwise qualified.)

The reconstruction of the pA system of thematic-vowel verb derivation that was, in its turn, inherited by pOJ, and that is preserved surprisingly intact in the OJ thematics, has had a troubled history. The vicissitudes of the study of this particular sector of pA morphology help to explain why it has taken this long for these Altaic materials

to be applied to the historical clarification of the details of the OJ verb, despite what now seems to be their almost obvious relevance to this question. Establishment of the formal athematic *vs.* thematic dichotomy in the OJ verb has largely been the work of Japanese scholars, and as such virtually unnoticed in the West (details most recently in Ōno 1977:206-16); but because they have worked entirely in terms of internal reconstruction, and limited themselves to Japanese materials, the same Japanese scholars have tended to concentrate almost entirely upon the forms, and at the same time to neglect their meanings. Wenck (1976-77) has pioneered in attempting to treat the Japanese forms in question along with their meanings, and to associate the OJ verbal classes directly with semantic features; but since he too refuses to go beyond Japanese materials, he has been unable to do more than indicate general directions for future study, without ever identifying the critical points of detail where the semantic correlations he suggests in general terms might be substantiated in the necessary particulars. To Doerfer (1972:332-5; 1975-76:47-9, §6.2) we owe the initial identification of Turkic reflexes for the pA system of verb derivation that also survives in the Japanese thematics; but since all Doerfer's contributions are uniformly directed toward disparaging, if not disproving, the hypothesis of a genetic relationship among the Altaic languages, he understandably plays down, when he does not simply obscure, the ultimate historical significance of the important evidence that his own studies have revealed in this connection. Thus, an unfortunate concatenation of "extra-linguistic circumstances of scholarship" ("extra-linguistic" because none of them directly relate either to the nature or to the substance of the linguistic materials involved) has unduly as well as unnecessarily delayed the historical clarification of the origin of the OJ thematics.

Outside of Japanese, Turkic and Tungus best preserve additional evidence for the original Altaic inheritance of the original three thematic vowels of secondary verb derivation, pA **+a-*, **+u-*, and **+i-*; but in several ways, the best (in the sense of the most convincing) of the

evidence for this pA morphological process is that surviving in Japanese. The Turkic evidence, while preserving substantial evidence for the original system, is at the same time partly obscured by several limiting factors. First, in Turkic (as to some extent also in Tungus) we must always reckon with the damaging effects of the *Stammverkürzung* first described by Murayama (1958; at the same time the independent and supplementary treatment of Ramstedt, in Ramstedt/Aalto 1957:1.152-6, §78, was in the press). Second, there was the strong analogic pressure within Turkic exerted by the thematics in pA **+u-*, which early in the history of Turkic began to extend their morphological domain, at the expense of the formations in **+a-* and **+i-*, almost destroying the evidence for the latter and seriously eroding the domain of the former. Third, and perhaps most important of all, we must not forget that the three pA morphemes involved in these thematic formations were precisely that, i.e., morphemes of secondary verb-stem derivation; hence we may only expect that they will be found operating in different ways with different verbs in different languages, as they no doubt operated differently with different verbs in different times and at different stages within pA.

The last important point has been particularly subject to misunderstanding in several treatments of this question, and urgently requires clarification, particularly in the light of the Japanese evidence. Doerfer, always anxious to cite forms that might superficially appear to argue against a pA linguistic unity, flatly claims (1972:333) that, e.g., Turkic-Mongolian comparisons can tell us nothing about the earlier situation of these thematic vowels, citing Mo. *ürgü-* "erschrecken", and comparing it with Tk. *ürk-* "id.", where the vocalization of the *-r-* Aorist, as well as the vocalic converb (both forms with a durative meaning) has *-a-*, giving *ürk-ä-*, *ürk-är-*: "Das Mongolische...hilft uns dabei nicht weiter". But the straw-man that Doerfer has here set up is easy to overthrow: Doerfer himself (1972:333) recognizes the extension of *+u-* forms in Turkic at the expense of the others, and particularly at the cost of the *+a-* thematics. The Mo. form he cites shows only that the same ex-

pansion of *+u-* forms took place not only in Turkic, but also elsewhere in Altaic, so that it is here reflected, e.g., in Mongolian. Thus the forms cited by Doerfer do not in any way refute the historical relationship of the formations in question, as he hoped to make them do, but actually they substantiate it, since they demonstrate that there was a morphological process at work in pA, by means of which different thematic vowels were suffixed to different verbs for different semantic values. But the same thematic vowel did not necessarily always go with the same verb; and different choices were available depending upon the precise meanings involved. In other words, it was a morphological process, involving both forms and their meanings, in the original language, and it was *inherited in the later languages as a process*, not simply as already-fixed strings of petrified morpheme combinations.

The inheritance of this pA morphological process *as a morphological process* by OJ from pA in its turn also provides the historical explanation for what are otherwise, in purely Japanese terms, the many unexplainable cases in which a given Japanese verb appears, in the texts, to waver between one or the other of the thematic classes, or in a few instances, even to waver between membership in the athematic class on the one hand, and one or both of the thematic classes on the other.

Thus, with OTk. *tol-* "be full", we find both *tol-ï-* and *tol-u-* (Gabain 1950:121, §232), the second of which can hardly be treated independently of pTg **ǰal-u-* "id." (Benzing 1955:1070), while OJ had the form with *+a-*, *taraF-*, already discussed above. OTk. *öč-* "erlöschen" had *+a-*, while its OJ cognate *öt-*, i.e., *ötö-* "depart, flee, avoid", had **+u-*. Tungus made extensive use of the thematic vowels, employing them to express additional semantic elements on verbs for which only the simple athematic is attested in Japanese: OJ *kīr-* "cut, sever, kill", but pTg **gim-* "glattschneiden" (Benzing 1955:969-70). The Turkic *tükä-* "be exhausted" of Kāšyarī "is not a root form but a derivative" (Menges 1968:126); thus we can understand its historical relationship not only to the *+a-* form seen in the (additionally suffixed) Japanese *tuka+ra-* "be exhausted", but also in the *+u-* form of *tuku-* + *-i* > *tuki-* "exhaust,

disappear". Most striking of all are the fairly numerous Japanese verbs that display membership in several thematic classes, and also at times show athematic versions: OJ *Fŷt-* "be soaked, steeped", but also a first thematic in *+a-*, as *Fŷta-* "soak, steep something", as well as a second thematic in *+u-*, as *Fŷti-* "soak, steep"; similarly significant of membership in different thematic classes is the apparent wavering, in early texts, of the OJ reflex of pA **bi-* "to be", between the *+u-* and the *+i-* thematics (a situation that is also probably reflected in the necessity to reconstruct several allomorphs for this same verb in pA). All these apparent waverings in attested forms can only be explained by the Japanese inheritance of the original process of the morphological formation of the thematic verbs as a process; and just like the Turkic-Mongolian comparison erroneously cited by Doerfer, they do not "refute", but rather they convincingly substantiate the case for a common inheritance by all these languages from a common original, particularly as this special feature of their verbal morphology is concerned.

Within the OJ verb paradigms, the *+a-* and **+u-* thematic vowels generally appear in the texts only after they have been somewhat obscured through contraction with the Japanese inherited reflex of pA **-i*, the deverbal noun formant (Ramstedt 1945) that plays a ubiquitous role in deriving subsequent morphological layers of the verbs in all the languages, Japanese included. In the terms of its employment of verbal nouns, particularly verbal nouns derived by means of this pA **-i* suffix, OJ syntactic structures are in complete congruence with the syntax not only of pA but also of the consensus of the later languages, where virtually all the verb forms at all periods are historically and morphologically simply various varieties of verbal nouns, particularly verbal nouns representing original pA **-i*. "Alle anderen Verbalformen, die in den verschiedenen altaischen Sprachen als prädikative Formen oder Tempusbildungen dienen, d.h. die unseren Indikativ ausdrücken, sind geschichtlich und meistens auch begrifflich nur verschiedenartige verbale Nomina" (Ramstedt/Aalto 1952:2.85-6, §52: the

"Alle anderen..." has reference to certain imperatives and optatives, but even these become verbal nouns in Japanese). In this light we can understand both the historical formation, and the syntactic roles, of such forms as OJ *ari*, i.e., **ā+r-i*, the conclusive, or sentence-ending, form of *ar-* "to be", together with the reason for the otherwise anomalous shape of this form in *-i*, when viewed in terms of the other OJ conclusives in *-u* (the anomaly is shared, significantly, by OJ *wori* "be, reside" < **bol-i*, cf. Tk. *bol-* "become"). With thematic *+a-*, contraction of the thematic vowel with the deverbal noun-formant **-i* before the time of the texts, i.e., in pOJ, resulted in OJ *-ǝ-*, or in OJ *-e-* in those phonological contexts in which the contrast of OJ *ǝ* and *ɛ* had earlier been levelled out, e.g., following *-n-* or *-r-*; with thematic **+u-*, appearing as OJ *-ǝ-* or *-u-*, the same process of contraction with the same pA morpheme of verbal noun derivation **-i* resulted in OJ *-ǝ-*, or in OJ *-i-* in contexts in which the contrast of OJ *-ǝ-* and *-ǝ-* was no longer observed.

Thus, in the paradigm of OJ *ata-* "impinge upon, strike at, collide with", a verb of the first thematic class (and cognate with OTk. *at-* "fling, throw; shoot", a verb that in Turkic also belongs to the *+a-* thematic class, having its aorist in *-a-r-*, DTS 65b), we find in the OJ texts two different forms that display the contraction of this **-i* with the thematic *+a-*. One is the OJ aorist itself (the *mizenkei* of the traditional grammars, for once a well-named form!), where it appears as *ate-*, the other the OJ deverbal noun (the *rén'yōkei* of the grammars), where it is seen as *ate(-)*. (The notation *ate-* with obligatory hyphen indicates that the OJ aorist is exclusively employed in the formation of still further morphological layers, e.g., negatives such as *atezu*, etc., while the notation *ate[-]* with optional hyphen indicates that the OJ deverbal noun may either be a free noun in its own right [thus, OJ *ate* "goal, aim"], or else appear as part of further morphological formations on the level of composition [thus, noun composition, *ateate* "a share, portion" (reduplic.); verb composition, *ategaF-* "allot individually according to need", with the compound verb-stem deriving suffix *+gaF-*,

itself combining the causative *+ga(-)* with the durative *+F-*, and typically employed, as here, to derive transitive athematics from underlying thematics].) Morphologically and historically, both OJ *ate-* and *ate(-)* are deverbal nouns in **-i*, showing *-e-* for the expected *-ǝ-* only because following OJ *-t-* the *ǝ*, *ǝ* distinction had already been levelled out under undifferentiated OJ *e*.

But because all these early Japanese contractions are quite regular, they actually do not obscure the historic evidence for the way in which all these forms were inherited from pA, since the earlier, underlying forms without the noun-formant **-i* may always be recovered intact. For this reason also it is not necessary to write the Japanese thematics with "*", since their uncontracted forms are not by any means solely reconstructions of hypothetical forms, but are actually attested in their uncontracted shapes elsewhere in the system of the OJ verb morphology and paradigms.

The semantic force of the thematic vowels in the first and second Japanese thematic classes, as well as their pA origins, are particularly clear. The first thematics in *+a-* involve specifically marked endocentric acts or events combining the semantic features of result and reversal. The class-meaning of most verbs belonging here may be characterized as reference to actions that go out to, operate upon, or otherwise affect an object, but which also and simultaneously revert back to the subject or actor, because the action or event in question results in a change or alteration that either benefits or harms, or at least in some fashion or other reflects upon, or affects, the subject. Thus these verbs, while at first glance often appearing to be transitives (and often necessarily translated by transitives in other languages) were and are genuinely endocentrics. The key semantic feature that distinguished the first thematic class in *+a-*, then, as well as the major semantic component of the pA derivational morpheme **+a-* with which these verbs were originally formed, was one of "result", combined with "reversal" (cf. Doerfer 1972:332-5; 1975-76:47-9, §6.2; Wenck 1976-77, here and immediately below), and particularly distinguished acts and

actions as reciprocating between subject (actor) and object (goal). (Functionally a different morpheme but showing in both form and meaning its ultimate connection with this same **ta-* was also the Turkic denominal verb suffix seen in such formations as OTk. *at* "name", *ata-* "to call"; *mün* "guilt", *münä-* "to be guilty"; Kāšyarī *tün* "night", *tünä-* "spend the night", and still functional in most Turkic languages [Sinor 1977:223-4].)

Here belong such verbs as OJ *ata-* "impinge upon", cognate with OTk. *at-*, *at-a-* "werfen", the etymological and morphological relationships of which forms have already been explored above. An equally informative illustration of the historical origins of Japanese verbs of this first thematic class in pA **ta-* is afforded by OJ *uka-* "hear, accept, receive (commands, pleas, vows, etc.)", cognate with OTk. *uq-* "verstehen, einsehen", with converb and aorist in *-a-* as *uq-a-* (Gabain 1950:111, §216; 121, §232), ETK. "usw." *uk-* "hören", Tel. *uk(k)ā* "das Hörenswerte, Erzählung, Sage" (VEWT, 511b), cognate also with Mo. *uqa-* "understand, know, comprehend, realize". Doerfer (1963 = TMEN 1.51-2) attempts to refute this Turkic-Mongolian comparison (he of course knows nothing of the Japanese evidence) through a combination of misquotation and faulty etymological principles almost too convoluted even to be followed, much less given credence: he claims that "...Bang schon im Anhang zu Poppe 1927a...zeigte, daß viele Wörter, die Ramstedt und Poppe als urverwandt auffaßten, z. B. tü. *uq-* 'verstehen' = mo. *uqa-* id., deshalb nicht urverwandt sein können, weil nur im Tü., nicht im Mo., die Wurzel dieses Wortes, *u-* 'wissen', existiert, und weil ebenso nur im Tü. das (Intensiv-)Suffix *-q-* erscheint, während im Mo. sowohl *-q-* als auch *-qa-* in dieser Funktion unbelegt ist. Da aber sowohl Wurzel als auch Suffix nur tü. sind, nicht mo., kann auch das ganze Wort nur tü. sein. Dieser Gedankengang Bangs ist niemals widerlegt worden, ja, meines Wissens ist keiner der Forscher, die für eine Urverwandtschaft der alt. Sprachen eintreten, jemals darauf eingegangen. ...Und wenn wir Bangs Gedankengang verwenden können, ...dürfte eine breite Bresche in das Bollwerk der These von der altaischen Urverwandtschaft geschlagen

sein."

Convincing, if any of this were true: but none of it is. Bang, in his comments upon Poppe (1927), does not make the argument that Doerfer here attributes to him, nor does he even discuss the comparison of Tk. *uq-* and Mo. *uqa-*. The root *u-* "be able" (and thus always the meaning of this verb in Turkic, not, with Doerfer, "wissen", a linguistically-historically misleading translation equivalent generated by calque, cf. Fr. *savoir*, R. *yemb* for Germ. *können*, etc.) is certainly not limited to Turkic; it occurs in OJ as well (*u-*, *e-* "obtain, take; be able", a verb of the first thematic class, but its paradigm in Japanese early became contaminated with forms from the OJ reflex of the pA, and pTg, verb of non-existence); and the same is true of the so-called "intensive" **+k-*, quite as well represented in OJ as in all the other Altaic languages. Thus, OTk. had *sī-* "to break (tr.)", but the verb soon became rare and was replaced by the intensivum in *sī-q-* "to squeeze", in turn cognate both in root and in suffix with Mo. *šīqa-* "press, squeeze, squash, strain", and in Mo. only the derivative intensivum has been preserved. But Japanese has a doublet, each member of which somehow continues the same inherited root and inherited suffix, OJ *sik-* "spread something out flat (extruding it to the furthest limits possible)", alongside late OJ *suk-* "spread shredded or pulped matter out flat on a sieve-like draining mat or tray", e.g., in making paper, or sheets of edible seaweed (Meerlattich, *ulva latissima*); and within Japanese, late OJ *suk-* might be described as a canonical denominal verb in the "intensive" *+k-*, since the noun OJ *su* is the word for the draining mat or tray upon which the operation in question is performed; cf. also NJ *kamisuki* "paper making".

Most impressive of all, there is the evidence of the survival of the thematic vowel *-a-* in the Tkc. coverb and aorist forms in *uq-a-*, exactly parallel both to the Mongolian verb, and also to the OJ thematic *uka-*. All the etymological elements involved in the formation of Tk. *uq-*, Mo. *uqa-*, and OJ *uka-* may be traced individually, and established for pA; and so also for the formation itself, which goes back to at

least a sector of the original linguistic unity. Far from opening "eine breite Bresche in das Bollwerk" of the Altaic hypothesis, this example, particularly once we have isolated it from Doerfer's misquotations and misunderstandings, provides supporting evidence for that thesis of the most substantial variety one could hope for.

Space permits only a mere sample of the many other Turkic cognates that demonstrate, by their membership within the class of Turkic verbs with coverbs and aorists in *+a-*, their etymological kinship with OJ verbs of the first thematic class: e.g., OTk. *aγ-*, *aγ-a-* "climb up, ascend", OJ *aga-* "id."; OTk. *tūr-*, *tūr-ä-* "fold, heap up", OJ *tura-* "line up in order"; OTk. *suq-*, *suq-a-* "hereinstecken", OJ *suga-* "pass a thong through an opening"; OTk. *sūr-*, *sūr-ä-* "drag, pull, tighten", OJ *sura-* "press together with friction". OTk. *in-*, *in-ä-* "dismount" is a particularly significant form in this same class; it is morphologically parallel with OJ *in-* (< **i-n-*) "depart, leave; (fig.) die", a verb of one of the minor, or irregular classes in OJ, that combines thematic forms in *-a-* with certain athematics in *-n-* (here as a medium or reflexive stem-deriving suffix on **i-* "enter"; cf. OJ *ir-* "enter", etc.).

Already noted above has been the morphologically (and historically) significant restriction, with the OJ verb system as a whole, of forms in *-dV-* and *-yV-* to the first and second thematic classes (they do not occur in the athematics), and the further restriction of forms in *-nV-* and *-wV-* solely to the first thematic (they occur in neither the athematics nor the second thematics). It goes almost without saying that such striking morphological anomalies are precious indications for the historical origins of the forms that they involve; here we can do little more than point out the principal documentation for the related morphological elements in the other Altaic languages, and suggest their overall correlations with the Japanese evidence, much of which remains to be treated in satisfactory detail. Involved here are both pA **+na-* and pA **+da-* (on the former, Ramstedt/Aalto 1952:2.196-7; Poppe 1972:136-7; on the latter, Ramstedt/Aalto *loc. cit.*, 168-9; Poppe 1972:140-1; and with respect to the Japanese reflexes, earliest Hattori 1947, reprinted in Hattori

1959:396-7). The Japanese thematics in question involve both deverbal and denominal formations (thus, with **i-*, OJ *i+d-a-* "put out, expell", but also with *sita* "underside", *sita+d-a-* "pour out", and with *kötö* "word[s]", *kötö+d-a-* "verbalize, give overt expression to something", further important examples in Yoshida 1976:113f.; similarly, with **na-*, which in the Japanese thematics particularly well preserves its inherited middle or reflexive signification, *tuka* "haft" underlies the thematic *tuka+n-a-* "bundle something together, tie into a single bundle [for the convenience of the subject]", contrasting in both form and meaning with the parallel athematic derived from the same noun, *tuka+m-* "grasp [something] firmly", a simple and unmodified transitive). The effective isolation, in the Japanese materials, of *-dV-* and *-yV-* as a set within the structuring of the thematic verb classes must also have an intimate historical relationship to another feature of the original language, that reflected in the Turkic inchoative or ingressive in *-d-/ad-* (Menges 1968:160) on the one hand, and that reflected in the well-known Turkic shift of intervocalic *-d- > -ö- > -y-* (Menges 1968:89) on the other (cf. also in this connection, Poppe 1972:137). Such OJ forms as *mĭ+ya-* "be visible", deverbal from *mĭ-* "see", cf. *mĭyar-* (< **mĭ+öar-*) "view the distance, overlook, survey", and *waka+ya-* (< **waka+öa-*) "become young, regain one's youth" seem both difficult and unnecessary to keep separate from the evidence from those varieties of Turkic in which the shift of *-d-* through *-ö-* to *-y-* has resulted in such forms as Tat., Kaz. *qartay-* "alt werden, altern", from *qart* "alt", etc., particularly in the light of such forms as Mo. *baȳa+d-* "become (too) small, insufficient", from Mo. *baȳa* "small in size or quantity; junior; young". If, as the comparison of OJ *wakaya-* and Mo. *baȳad-* suggests (on the Mo., cf. Ramstedt 1912:40, §51), OJ preserves a historical-morphological layer or level in which **-d-* is represented by *-y-*, as well as another in which the same **-d-* is represented by *-d-*, one need not be too surprised either by the data or by their larger implications for the Altaic-Japanese relationship; actually, such developments would play their own part in helping to fill out the picture now only begun to be sketched by our

evidence for traces, within OJ, of the same sound-changes that eventually resulted in the Chuvash rhotacism (Tk. *aḡaq* "foot", Chu. *ura* "id.", cf. J *asiura* "sole of the foot" [*asi* "foot, leg"], and OJ *ari+k-*, later *aru+k-* "walk", but also *ayu-m-* "id."). At the very least, these extremely "Turkic-appearing" *-d-/y-* alternations within the OJ verb morphology, particularly when considered in connection with the *-r-/y-* sets just cited, can hardly be understood historically apart from the history of parallel sets, elsewhere attested from the history of the related languages. Additionally, the establishment of the correct history for OJ thematics in **+n-a-* is of great value for the etymology of a very large number of secondary verbs within Japanese, in view of the enormous productive powers of the compound suffix of secondary verb-stem derivation *+na-F-*, which brings together these medium or reflexive elements from the first thematic class and the durative *+F-*, already noted above, deriving large numbers of secondary athematics in *+naF-* (e.g., *akŕ+naF-* "engage in commerce", *ökö+naF-* "carry out, undertake", *tömö+naF-* "accompany", *tumŕ+naF-* "hold [someone] guilty of a crime", *ura+naF-* "perform divination", etc., etc.).

Contrasting with the first thematics quite as clearly in meaning as they do in their forms, the second thematics in **+u-* in the original language specifically marked endocentric acts, actions or events that combined the semantic elements of "perfective state" and "inversal". The class-meaning of most OJ verbs belonging here may be characterized as being acts or actions that remain, after completion, within the sphere of the subject or actor, particularly in so far as the state, situation, or other result that has been produced or brought to completion is concerned. Translations of verbs belonging to this class may include versions in the passive, or the reflexive, depending upon the language of translation; but there is far less danger of confusing these second thematics with true exocentric transitives than exists for the first thematics. Many of the verbs in this second thematic class refer, as a consequence of their class-meaning, to natural phenomena, as well as to a wide variety of psychological phenomena, all of which are of

course essentially and typically intransitive and endocentric. (Cf. on this class esp. Wenck 1976-77, to which the present account is in debt; but the rigid cause-and-effect relationship there proposed [p. 396] relating a "natural" to a "psychological" sub-category is difficult to maintain: how, one must ask, are *kuyu-* "regret" and *körö-* "grow wiser from a bitter experience" to be understood as examples of "an extension to psychological phenomena" of "natural [non-human] events"?).

Murayama (1978:216f.) has already given a large number of extremely convincing examples relating representative OJ verbs of this class, both in *-ö-* and in *-u-*, to their Altaic originals, as well as to their cognates in the other languages; these include OJ *körö-* (above), *örö-* "descend", *ökö-* "elevate", and *ötö-* "drop, decline", and it is unnecessary to repeat his evidence here, except to note that in the last form cited, the apparently detailed correspondence between the OJ secondary athematic *ötör-* "decline, grow old", and Mo. *ötel-* "alt werden, altern", probably does not, as it would first appear, involve an inherited formation involving the same suffix and the same root, because of the OJ *-t-*, here unshifted to **-d-*, so that the Japanese evidence provides further arguments in favor of Ramstedt's speculation (Ramstedt/Aalto 1952:2.165) to the effect that "...diese Bildung kann aber nicht besonders alten Ursprungs sein...".

Murayama (*loc. cit.*) also advances substantial comparative evidence for OJ thematics in *-u-* < **tu-*; to be noted here, with respect to the words for "old; passage of time", is that the Japanese inheritance also includes a noun stem used in a number of secondary formations, including denominal adjectives, OJ *Furu(-)*, identical in shape, but slightly different in morphology, when compared with the OJ second thematic verb *Furu-*, which *+i-* yields *Furi(-)* < **Furü(-)*, etc. Cf. also the OJ secondary athematic factitive, *Furus-* "make to be old". Complicating the picture here are the existence of an OJ first thematic *Fa-* "pass by, go beyond (time, space)" probably best understood historically as a back-formation in the theme *+a-* to the same root; note also that the second *-r-* of the OJ attributive *Furu-ru*, from the second thematic *Furu-*, is

exactly paralleled by TkC. *uz-α-r-* "stretch out; be stretched out, far away", cf. TkC. *uz-u-n* "long, far" < pA **pur₂-* (*uzar-* is cited and explained historically in Severtjan 1974:572, with further references), a valuable clue to the historical origin of the attributives that go with the OJ thematics. Another OJ second thematic with a most convincing pTg etymology does not appear to have been cited in the literature until now: OJ *kutu-* "decay, rot", going with Ew. *kut* "piece of rotten wood", *kut-* "to rot (wood)" (Menges 1978:389), Lam. *kuč* "alter, fauler Baum; Holzmehl von morschen Bäumen als Unterlage in der Wiege" (Benzing 1955b:208b), but also with a large number of other Tungus forms in *-u-* showing clearly that the original, and inherited, secondary theme in Tungus as in OJ ended in *+u-* (TMS 1.441b for the forms, which include Ew. variants in *kuču*, *kuču-*, among many others; probably also related is NKor. *kuč-* "be bad [of the weather]; rotten [of meat]").

Only one more major verb class of OJ remains for consideration, the third thematic in OJ *-i* (or in *-i* after consonants where the *i/ĩ* distinction had been levelled out) (the *kami ichidan katsuyō* of the grammarians). At best, this is a tiny, if important, set of verbs. The most generous accounting possible for the third athematics would include no more than a total of fifteen words (e.g., Yamaguchi Akira in Matsumura 1971:130c-32a), but more than a few of these are suspect of being later accretions to this class (and/or belonging also to the second thematic). A more rigorous inventory will include no more than ten verbs (e.g., SSD, Introd., 38a): *kī-* "wear (clothing)", *nī-* "resemble", *nī-* "cook, boil", *mī-* "see", *wi-* "be", *wi-* "lead", *wi-* "get one's teeth set on edge (e.g., by something sour, or bad tasting)" (in lexica only, no texts), *i-* "shoot (e.g., a bow and arrow)", *i-* "cast metal", and *i-* "pour (a liquid) out, upon". One at once suspects that *i-* "cast metal", and *i-* "pour" are actually one and the same verb; furthermore, it seems difficult to separate either from *nī-* "cook, boil", particularly in the light of the well-attested early loss of **n-* before *-i-* in Korean. Metallurgic techniques are relatively late introductions into Japan from the continent, *via* the Korean peninsula, and words relating to

them may easily be suspected of being early loans from some Old Korean variety of Altaic (the OJ athematic *ner-* "forge, temper metal" may represent either **nia+r-* or **nai+r-*, and is also probably relevant here). Japanese scholars, beginning with the pioneer lexicographer Ōtsuki Fumihiko, have long suspected that this entire class is somehow denominal, a view that has much to recommend it; thus, with *i-* "shoot", cf. *ya* "an arrow", with *mĭ-* "see", *ma-*, *mĕ* < **ma+i* "eye", reminding one yet once more of the proposed but difficult etymology (Murayama 1978:277-8) that would connect OJ *sir-* "know" as being from **si+r-* and going with pTg **sā-*. A Ǟürčēn form *sāh-hĭ*, presumably for **sahi*, is often cited and glossed simply as "знать" (e.g., *TMS* 2.51a), and from the overt shape of this word, one could even begin to suspect an almost Indo-European-looking set of Ablaut alternations relating the nouns and verbs (**ā ~ *ai ~ *ī* ?). But the Ǟürčēn form, Professor Menges informs me, is surely the perfect participle, and at the same time, Professor Norman tells me that the same form survives in spoken Manchu, cf. Sibe *sahi*. (Kiyose 1977:154 and *passim*. has both the Ǟürčēn forms and their Chinese glosses translated incorrectly each of the many times they appear in his source!) Menges' etymology (1975:57-8) for *kĭ-* "wear" shows an original pTg **-i-* vowel, but additionally clarifies the historical origin of the OJ *-r-* that distinguishes both the attributive and conclusive forms in the paradigm for this verb (more of the forms cited in *TMS* 1.150b). Formally, it is tempting to align this class with the third of the inherited pA themes, that in **+i-* (Doerfer 1972:334); on the semantic level such an analysis is not untenable (e.g., in Turkic this theme indicates an inversive or reversal of the action, with particular relevance to the causatives), though establishing such an etymology in a satisfactory fashion would require considerable additional documentation. Meanwhile, the strong hints of a denominal character that exist for this entire class also suggest an alternate etymology for the thematic vowel of this class, in pA **-i-*, the formant for the verbal noun; and it cannot be denied that a most suggestive parallel exists in Poppe's analysis (1976:471) of Mo. *bui* < **bü+i* "existence, existing, being, is",

particularly in the light of the membership of OJ *wi-* "id." in this same third thematic class.

Viewed as a whole, the third thematics consist of a suspiciously small number of forms. Some of them are extremely common words of high frequency in the language (*mĭ-* "see", *kĭ-* "wear", *wi-* "be"), while others (*i-* "cast metal", etc., as above) are fairly specialized terms that may well be suspected of being early loans into pOJ from another variety of Altaic; and several words from both these categories have well established, and informative, Altaic etymologies.

The four minor categories of the OJ verb that remain need not detain us long; the first two (*nahen* and *rahen katsuyō*) have only two members each, the last two (*sāhen* and *kāhen katsuyō*) have only one each, while the paradigms of the six verbs in question (*in-* "depart", *sin-* "die", *ar-* "be", *wor-* "be", *sĭ-/u* "do", *kĭ-/u* "come, go") clearly show the results of morphological contamination back and forth between the athematics and all three thematics. OJ *in-* and *sin-* are probably only doublets of the same original word (the initial *s-* of *sin-* "die" is either an example of the OJ *s-*movable, or in macaronic imitation of Chinese *sĭ* "die; death"; in either case, the word in Japanese goes directly with inherited **ĭ-* "enter", with the stem-deriving suffix **+n-a-* for medium verbs, as typically in the first thematic class, already explained above). The OJ verbs of existence *ar-* and *wor-* have transparent Altaic etymologies, which as pointed out already, at the same time clarify their membership in their own, and limited, minor class; and much the same is true of *sĭ-/u* "do" (on which cf. also Ramstedt/Aalto 1952:187-9, §90). Finally, on *kĭ-/u* "come, go", cf. JOAL 73-4 (but only the inherited root, something of the shape **kw-*, is common to all the languages; everything else that appears with this verb is secondary suffixation). With these four minor classes in hand, we have treated all eight of the OJ verb classes, and found how each of them still shows, in one way or another, its historical origin in the forms and morphological processes that the language inherited from pA.

The remainder of a full-scale, truly *historisch-erklärende* treat-

ment of the origins of the Japanese verb and its classes would largely have to do with tracing the later wide-scale proliferation, throughout the paradigms of the eight OJ classes, of secondary formations closely related to, and inherited from the same sources as are responsible for, the Tungus aorists; here the classic treatment of Menges (1943) remains the starting-place for all subsequent studies. Only two detailed examples of the problems awaiting treatment under this category may be noted in passing: (1) it is often forgotten that even within the curiously stark paradigms of the third thematics, certain forms in a number of texts show typically Tungus aorist formations (e.g., *m̃l+ra-m-*, *ñl+ra-s-*, etc. [Yamada 1954:320-1]) that were soon thereafter levelled out, under pressure exerted by the rest of the paradigm; (2) the OJ conditionals in *+re-* for the thematics (*atare-*, *köröre-*, *m̃re-*) have their exact counterparts in well-understood Tungus formations that bring together the aorists in **+ra-* with additional suffixal material (Benzing 1955: 1085, §143a, **+ra-* + **ki-* > **-rāki*; cf. Ramstedt/Aalto 1952:2.88-9; Menges 1968b:234; Ikegami 1971:296); furthermore, it is only in terms of the Tungus formations in which "eine Ableitung von der Bedingungsform (und demnach vom Aorist) dürfte in einer Anzahl von Imperativformen der stg. Sprachen vorliegen" (Benzing 1955:1086, §143b) that the superficial coincidence of conditional and imperative in the verb *ar-* (both as *are*) is to be explained.

The OJ imperatives, for their part, have a wide range of other Altaic, and particularly Tungus, features, including but by no means limited to, the so-called "suffixed *-yö*, Azuma *-rö*" forms, which are neither interjections, as has been suggested by Japanese scholarship from time to time (e.g., Ōno 1977:213-4), nor random formations without historical importance, but instead go directly with attested Tungus formations, notably the Udi imperatives in *-ja*, *-jē*, *-jo* (Menges 1968b:160-1; thus, with OJ *wi yö* "be!", cf. Udi *bi-jē*, the Imp. I., 2 sg., Menges, *loc. cit.*, p. 165). The Azuma (non-standard) OJ forms in *-rö* here represent the Japanese inheritance of a northern Tungus isogloss in *-r-*, while the standard OJ forms in *-yö* go directly with the paired southern

Tungus isogloss in *-y-*, a differentiation that was early within Tungus most likely related to a shift in the position of a pitch-accent (Benzing 1955:999-1000, §62), and that further relates these imperatives, in all the languages concerned, to the critical morphological elements that also entered into the formation of the aorists. Thus the tremendous vitality displayed, along these and many other lines of morphological development, by Tungus-related aorist forms and formants throughout the history of the OJ verb and its forms constitute one of the most important bodies of evidence linking Japanese to the other Altaic languages.

The verb classes and paradigms of the Ryūkyū languages may be traced in almost every detail back to the eight OJ verb classes (Hattori 1932, reprinted with changes and revisions in 1959:296-361; most recently also Yano 1977, with additional critical notes by Hattori 1977). As Murayama has pointed out (1978:290), probably the only R forms that require us to go beyond the confines of the OJ verb classes and paradigms are those in final *-m* or *-ŋ*, which probably preserve traces of pTg **+m̃* (Benzing 1955:1090). Korean also apparently inherited the athematic-thematic dichotomy (Sugano 1977), though by the time of Middle Korean, beyond which it is at present difficult to go, the system had become highly obscured, in part because of the limitations upon the inherited thematic vowels imposed by the Middle Korean system of vowel-harmony.

In writing his pioneering study on the historical origins of the Tungus aorist -- that same Tungus aorist that, as we have seen, plays a vital role in the historical clarification of the OJ verb classes -- Menges hoped that his work would "also contribute a certain amount of evidence, however small, in favor of the hypothesis of Altaic linguistic unity", in view of the fact that "in this age of empiriocriticism and agnosticism, an Altaic linguistic unity continues to be contested (1943: 251). Now that we understand something of the ways in which the same Altaic morphology that accounts for the Tungus formations Menges then studied now accounts for many of the OJ verb formations, we might ex-

press a similar hope. The parallels in forms, meanings, and morphology to be observed, e.g., even in the single set of forms OJ *uka-*, OTk. *uq-*, *uq-a-*, Mo. *uqa-*, as well as those in any of the other inherited formations explored in the present paper, must either be relegated to the realm of coincidence, or else they must have significance for the history of all the languages involved; and if they indeed do have such historical significance, it can only be the history of genetic relationship, since the very nature of the data rules out borrowing. The conclusion would appear to impose itself. But as Menges has also, and much more recently, had occasion to point out, "es wäre unzeitgemäßer Optimismus, anzunehmen, daß nunmehr die Kritik an der 'altaischen Theorie' aufhört, zumal sich ja einige Gelehrte in ihren Schriften gegen die Urverwandtschaft zu sehr festgelegt haben, indem sie glaubten, die Urverwandtschaft sogar der drei enger verwandten altajischen Gruppen, Türkisch, Mongolisch und Tungusisch, lediglich als scheinbar und eine Verwandtschaft höchstens als auf Entlehnung, Konvergenz, und, wenn gar nichts mehr half, als auf Zufall beruhend erklären zu können. In einem speziellen Fall ging man sogar so weit, zu dem nicht mehr ausreichenden Zufall noch einen 'dynamischen Zufall' hinzuzukonstruieren...Man ist gespannt, zu erfahren, wie diese Gelehrten nun auf den japanischen 'Zufall' reagieren werden" (CAJ 18.201 [1974]).

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CAN GRAPHEMIC CHANGE CAUSE PHONEMIC CHANGE?¹

EDGAR C. POLOMÉ
University of Texas at Austin

The problem of *spelling pronunciation* where phonemic change is neutralized by pressure from the graphemic system has often been investigated in the Western languages. Thus, Bloomfield (1933:488) pointed out that an early XVIIIth century orthoëpist indicated the pronunciation [ʃ] for *assume*, *assure*, *censure*, *consume*, *ensue*, *insure*, *sue*, *suet*, *sugar*, several of which now show a spelling pronunciation [s] ~ [sj]. We also ascribed the preservation of final -d in the cluster -nd, e.g., in *hand*, where spellings like *blyne* for "blind", *thousan* for "thousand", or *poun* for "pound" occur from the XVth to the XVIIth centuries, to the action of lower class teachers who exerted their authority on the upcoming generation and made sure they pronounced every word correctly, thus contributing also to the recurring restoration of -t- in *often* or the pseudo-learned pronunciation of Lithuanian with [θ]. A frequently quoted example of such a [θ] is *author*, a printer's spelling for M.E. *autor*, from O.Fr. *autor* (< Lat. *auctorem* [cf. Hall 1964:272]). Lehmann (1973:178, 226) also points to the use of [dy] instead of [dʒ] in *Indian*, to be compared with the familiar *Injun*, and indicates how some people object to the pronunciation [ˈɛdʒəˌkeɪt] for *educate*.

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Less known is the impact of the introduction of writing systems -- mostly by non-native speakers -- on the phonological system of hitherto unwritten languages: usually, the Roman alphabet, serving as a basis, does not provide an adequate set of distinctive characters to reflect the phonemic system of the target language; and some are deliberately ignored. Thus, Meinhof (1941:iv) states bluntly about his Swahili handbook: "the orthography is the one presently introduced in East Africa. Many differences in the sounds, which have been particularly pointed out by E. Steere and W. E. Taylor, and which can be observed in the language of educated people, are simply disregarded, because Swahili is presently the generally used language of communication in East Africa and beyond, and therefore also spoken by foreigners, who do not heed these peculiarities." As the system introduced for the graphic representation of the language becomes the instrument of literacy, the neglected phonological features tend to be forgotten and, ultimately, they are lost in the language of educated people. An interesting case is that of Lomongo, spoken in the central part of Zaire: the language had a voiceless bilabial fricative [ɸ] (in complementary distribution with [p], which occurred only after nasal), e.g., *lo-foso* "skin" → plural *mposo* (< **n-foso*). The European missionaries who represented it graphically by <f>, usually mispronounced it [f] as well. As a result, the "correct" pronunciation [ɸ] became a sign of "poor education" and was avoided, while French borrowings with *f* strengthened the "new" phoneme. As a recent grammar describes it: "originally and normally bilabial it now shifts to the labiodental imitated from French. This trend is already largely followed by the youth in the schools and the educated people" (Hulstaert 1961:47).

When a shift in writing systems takes place, similar losses can be expected: Swahili, originally written in Arabic script, had pronunciation features which reflected the distinctions between emphatic and non-emphatic in the Arabic loans, but as it adopted the Roman script, "emphatics" were no longer marked as such, and the phonological differentiation vanished in the speech of the younger generation. This

is clearly illustrated by a statement of Stigand (1915:4): "it appears that there are no less than five different *t*'s in common use in ...Swahili and clearly distinguishable from each other to the educated Swahili ear...A multiplication of different letters is not approved of by most authorities on the language who aim at the simplification of writing..."

The different *t*'s he lists are:

- (a) the Arabic emphatic <ṭ>, e.g., *suḷṭan(i)*, *karatasi* "paper", etc.;
- (b) the dental [ṭ], <t>, characteristic of the Mombasa dialect, *kiMviṭa*;
- (c) the (post)alveolar [t̪], characteristic of Bantu terms (Stigand calls it "cerebral", but it is not a retroflex);
- (d) and (e) are aspirated varieties of (b) and (c).

Though none of these differences was marked orthographically, Tucker and Ashton still found them in 1942 in the speech of their informants, but with a certain amount of fluctuation (Tucker-Ashton 1942:86-7):

<u>Informants:</u>	<u>Ramadhani</u>	<u>Barwani</u>	<u>Buesh</u>	<u>Hamisi</u>
Origin:	Zanzibar	Zanzibar	Zanzibar	Taita (Kenya)
Education/status:	uneducated	educated (Arabic elite)		
emphatic <ṭ>	ṭ	t	ṭ	
<i>t</i> in Arabic loans	ṭ	t (alveolar)	t (alveolar)	t (alveolar)
<i>t</i> in Bantu words	ṭ ~ t	t	t	t
[ṭ] in Mombasa ([:t̪] in Zanzibar) → borrowings	ṭ	t	t	t

Actually, the Arabized pronunciation still occurs, but is restricted to a limited and nowadays dwindling group of speakers -- Swahili

speakers strongly under the spiritual influence of Arabic culture -- and to definite style forms like solemn recitation and public address in the mosque and similar types of formal speech (Polomé 1967:45). Its characteristic feature [+flat] or [-Advanced Tongue Root], if we follow Hyman (1975:49-50), is lost everywhere else in words like:

tayari "ready" [t̪];
safi "clean" [ɕ].

The Arabic *kāf* <q> loses its postvelar articulation and becomes a regular velar, e.g., *weka* "put", where Ramadhani (1942) would say [weqa]. This corresponds to a change of sign of the feature [high]: [-high] → [+high]. Also disappearing is the velarized allophone of /l/ in the name of God: *Allah*, as well as the dental articulation of /t/ in Arabic loans. Similarly, none of the informants of Tucker and Ashton (1942:95) seemed to use the uvular articulation [ʁ] of /r/ anymore, though I heard it used in 1963 in Zanzibar and along the Mrima coast (Polomé 1967:46). The pharyngeal fricatives [ħ] and [ʕ] of Arabic were often replaced by the glottal stop (*hamza*) in the pronunciation of Tucker and Ashton's informants (1942:87), though they also were "just as conveniently omitted". In my findings (Polomé 1967:46), [ħ] appeared to alternate with [h], and both 'ain [ʕ] and the glottal stop alternate with zero; this merely confirmed the statement of Stigand (1915:83): "'Ain (ع), هـ (ح), and ' (ء) [hamza] are the Arab sounds least usually heard in Swahili".

The only Arabic sounds for which the romanized spelling adopted particular graphemes were [θ], [ð] and [ɣ], respectively represented by <th>, <dh>, and <gh>, and even so, non-native speakers of Swahili tend to replace these fricatives by more familiar Bantu consonants, either by changing the continuants into stops: [θ] → [t], [ɣ] → [g], but the rule [+cont] → [-cont] does not apply to [ð], which changes to [z] by the rule [-strid] → [+strid] according to the Jakobsonian features (Hyman 1975:40). Thus,

thelathini "thirty" becomes *telatini*, but also *selasini* according to the second rule (the "stridency" rule);

thamani "value" → *samani*;

haidhuru "it does not matter" → *haizuru*;

ghali "expensive, scarce" → *gali*; etc. (Polomé 1978:20).

Especially confusing is the use of *h* to render Arabic [χ] (ح), since it is obviously a voiceless velar fricative like in Scottish *loch* or German *Aachen*. Numerous educated Swahili speakers from the coastal area, like Sheikh Mohammed Ali, who helped to translate the Tanzanian laws into Swahili, waged a campaign to change the spelling and restore the "correct" pronunciation in Arabic loans like *heri* "happiness", occurring, e.g., in the familiar phrase *kwa heri* "good-bye". The inconsistency of the orthographical system is illustrated in this case by the co-existing forms: *sabalkheri* "good morning" and *masalkheri* "good evening", in which the grapheme <kh> is supposed to reflect [χ]. The same <kh> occurs in a few isolated words like *khalifa* "caliph". It should also occur in *ruhusa* "permission", but instead an alternate spelling *ruksa* is found; similarly, [eiχ] is spelled *sheik* and alternates with a (now quite unfamiliar) *shehe*. All this confusion is due largely to compromise decisions taken by the Swahili Inter-Territorial Committee in the thirties.

A very significant decision of that Committee was *not* to mark the difference between aspirates and non-aspirates, for which earlier writers, like B. Taylor (1891), B. Burt (1910), C. Meinhof (1910) and C. Sacleux, used special diacritics or different graphemes altogether (Angogo 1978: fig. 9 and p. 77). This ultimately entailed the loss of the phonemic contrast, which led to important morphological consequences as the contrast *aspirate* : *non-aspirate* indicated the difference between nouns belonging to the *n*-class and their augmentatives, e.g.,

pembe[p^h] "horn" : *pembe*[p] "big horn";

tundu[tʰ] "hole" : *tundu*[t] "big hole";
chupa[tʃʰ] "bottle" : *chupa*[tʃ] "demijohn";
kuta[kʰ] "walls" (plural) : *kuta*[k] "large wall" (Polomé 1967:40).

Swahili had indeed a rule which would change the initial clusters of nasal + voiceless stop or affricate into aspirates, if the lexical item to which it applied was not monosyllabic. On the other hand, the same rule had created a set of minimal pairs on the semantic level where the following could, e.g., be contrasted:

paka[pʰ] "cat" : *paka*[p] "smear!" (imperative);
tembo[tʰ] "elephant" : *tembo*[t] "palm beer";
changu[tʃʰ] (kind of fish) : *changu*[tʃ] "mine" (*ki*-class);
kombe[kʰ] "oyster shell" : *kombe*[k] "bowl" (Tucker-Ashton 1942:87).

However, while a tensing rule of the type:

$$\left[\begin{array}{c} \text{C} \\ +\text{obstruent} \\ -\text{voice} \end{array} \right] \rightarrow [+tense] / \# \underline{\quad}$$

has undoubtedly affected the *n*-class nouns, in correlation with the loss of the nasal, Swahili has also developed a new tensing rule, triggered by the stress:

$$\left[\begin{array}{c} \text{C} \\ -\text{cont} \\ -\text{voice} \end{array} \right] \rightarrow [+tense] / \underline{\quad} \quad \quad \quad (\text{Vitale 1978:11}).$$

[+stress]

As this rule will aspirate voiceless obstruents in initial position in dissyllabic words, it is a source of confusion between the augmentation and the ordinary form of some nouns like *chungwa* "orange", which would appear with initial [tʃʰ] in *both* cases. The only solution, then, is to designate the "large orange" by adding the appropriate adjective

kubwa. However, aspiration still appears as a distinctive feature to contrast two lexical items in some areas, e.g., in Mombasa, where my informant in 1963 contrasted *tundu*[t^h] "hole" with *tundu*[t] "basket of wickerwork used as a cage or fish-trap", but used *chupa kubwa* for a "demijohn", so that the distinct augmentative without aspiration seems only to be preserved when it is lexicalized (Polomé 1967:40). The blurring of the contrast due to its low lexical yield (there are only a dozen minimal pairs, mostly less familiar, rather technical terms) and to the tendency to aspirate obstruents before the stressed vowel contributed to the loss of aspirates in the speech of the larger towns. A generation later, my Zanzibar informants no longer contrasted *paka* "cat" with *paka* "smear!", which Ramadhani still distinguished according to Tucker and Ashton (1942:88). The absence of notation of the aspiration both in the older Arabic writing system and its current romanization and the prevailing influence of non-native speakers in Tanzania and elsewhere, who fail to establish a difference on which no attention is drawn in Swahili language teaching anymore, had permanently done away with aspiration in the received Swahili standard.¹

Similarly, the elimination of the contrast between geminates and non-geminates has practically entailed the total loss of consonant length as a phonemically relevant feature. This again resulted from a decision taken at an Education Conference convened by the British Governor of Tanganyika in Dar es Salaam (Angogo 1978:91, 94, 136). Early works, like Krapf's dictionary (1882), would spell *hatta* "until", *killla* "every", *marra* "time", *assubukhi* "morning", etc. There would be minimal pairs like *uma* "bite!" : *umma* "nation", but they were not numerous and were restricted to cases where Arabic loans with original double

¹However, some scholars, like J. Knappert, deplore the fact that Swahili orthography does not indicate "aspiration", and the new Dictionary prepared by the Institute of Swahili Research in Dar es Salaam is apparently going to incorporate the distinction again in the language (Angogo 1978:54, 102).

consonant co-occurred with Bantu words containing the same segmental phonemes (Polomé 1967:58). The original Arabic "double" consonant was usually ignored in Swahili pronunciation, the long consonant being nothing but a sophisticated Arabized variant, comparable to the lengthening reappearing under emphatic stress in such words as *hata* in *hata kidogo* "not at all" [hat:ta].

Thus, the study of graphemics versus phonemics in the languages of emerging countries provides a rich source of data for the analysis of the impact of writing systems on language development.

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THE HITTITE IS THY MOTHER:
AN ANATOLIAN APPROACH TO GENESIS 23
(EX INDO-EUROPEA LUX)

YOËL ARBEITMAN
The University of Michigan and Bronx, N.Y.

In grateful dedication to the sacred memory of my irreplaceable, beloved friend, colleague, and teacher, J. Alexander Kerna. His like there shall not walk this earth again in my days.

I. GOALS, METHODS, AND ACHIEVEMENTS
a. The Title and Intent

It seems obvious that we need to begin with an explanation of our multimembered title. The main title is, of course, from Ez. 16:3:

Thy origin and thy birth are from
the Land of the Canaanite, thy father
is the Amorite and thy mother the
Hittite.

מכרתך ומלדתך מארץ הכנעני
אבך האמרי ואמך חתית,

There is a variant rendition in Ez. 16:45. Although no article appears before the "Hittite" word in the Hebrew, from a formal point of view, it does appear there functionally, for the article prefixed to the "Amorite" word (which precedes) serves to definitize both the coördinated predicates by an ellipse of a kind quite well-documented in Biblical poetry.

The subtitle is a statement of intent, a declaration of conviction that the Hittites of Genesis, and indeed of any other part of the Bible,

are in one sense or another, just that: Hittites. To be sure, such a statement appears so very self evident and trite as to result in the scholar who feels constrained to "demonstrate" it appearing as an ass. Alas, there has arisen a revisionist school, dedicated to the principle that Biblical Hittites are anything else, but one thing they are not is Hittites. Involved in this new orthodoxy is some statement about Biblical Hurrians not being Hurrians either, but the Hivites being the actual Hurrians (Hoffner 1973). This new revisionistic orthodoxy rules, particularly because it is so vociferously disseminated by the present occupant of the Chair of Hittitology at the University of Chicago, long the center of Hittite studies in the USA. The arguments proffered by Harry Hoffner are not even serious enough to demand detailed rebuttal, and here is not the place for any such rebuttal, should it be our intention to take on his arguments. The burden of proof is on him, the burden to find better buttressing for his revisionistic scrambling of all Biblical peoples into their opposites. We, for our part, accept the Bible's word that there did live alongside and in symbiotic relationship in ancient Canaan many (if not all) of the main folks of the Ancient Near East Oecumenon. The linguistic-civilizational records of the great Biblical Library are a treasure of culture and language and history and man's relationship to the Creator and to the Cosmos, and, as such, they have more, much more, to tell us than is dreamt of in the philosophies of either fundamentalist believers in "inerrancy of the Word of God" or of atheistic sceptics who, unable to accept the theology, throw overboard the whole Book as worthless. The Bible is righter oftener than we think. We intend here to give demonstration that it was certainly right when it called the "Residents of the Land" who were in Hebron before Abraham's coming there "Hittites." While we will not examine the question beyond the parameters of several names in Genesis 23, we do wish to refer readers to two other articles where we have dealt with this problem (Arbeitman 1981a and Arbeitman & Rendsburg 1980). The tertiary title is a take-off on the standard "Ex Oriente Lux," for the flow of light occurs in both directions, as already hinted at in

our "E Luvia Lux."

b. Modus Operandi

This work, though innovative and overly bold, some would say, in the paths it travels, has a history, a background in methods previously employed by others, amongst which we may name first the area of Jewish Targum (ἐρμηνεία), a word:

which means both translation and interpretation ...[and is] but the first rudiment of the interpretation of a text....

The elementary task of the interpreter of the Bible was to explain the *realia* and to render the rare and difficult terms in a simpler Hebrew, or, sometimes, in Aramaic. The *Tannaitic Midrashim* swarm with such translations. The Rabbis like to introduce such simple renderings with the term: כֵּן ... כֵּן, 'nothing else than.'

These translations are sometimes quite instructive. The Rabbis often explained the 'Bible by the Bible' They followed sound philological method and established its [a rather metaphorical use of a particular word] meaning from other places in the Bible where the word is explicitly associated [with a more basic, concrete meaning].

The Rabbinic sages sought to understand the meaning of the difficult and rare words in Scripture not only through parallels in the Bible itself,...they also sometimes explained them with the aid of other languages, remarking that the given word is Phoenician, or Coptic, or Syriac, or derived from some other language.

Some of them travelled to the provinces for the sole purpose of discovering the meaning of some rare Biblical words in the dialects spoken there (c. 170-230 C.E.).

This extensive quote from Lieberman (1962:48) serves eloquently and elaborately to express the methods we have sought to employ; better put, it shows that the methods we ourselves applied to our problem were not so very novel and daring as we assumed; rather they were deeply rooted in the tradition. The Greeks too had, of course, a tradition of enquiry (examination); this tradition doesn't need such long and complex exposition, for Plato summarizes it all in Socrates' words (*Apologia* 38a): ὁ δ' ἀνεξέταστος βίος οὐ βιωτὸς ἀνθρώπῳ.

There is no accident in our choosing the subject of Biblical versional rendering to honor our beloved teacher. The field of integrated linguistic-Biblical studies-translational traps and "strategies" to solve pitfalls was one of Prof. Kerns' life-long obsessions. This is best illustrated by two events. When we first sat in his class one of his first little "mind-busters" that he was so wont to throw at students to awaken them was that there was a passage in the N.T.¹ where the 2 pl. act. ending -τε in the Gk. was ambiguous and this had led to theological problems: did the passage say: "Ye do such and such" (indicative) or did it command: "Do [ye] such and such!"? The problem could have been solved for the Church if the Vulgate had explicitly chosen indicative -tis or imperative -te, for Latin has contrasting 2 pl. act. endings: indicative vs. imperative. Alas for doctrine, the sagacious Jerome had deliberately chosen not to choose: What the Holy Ghost had left ambiguous, the translator could not dare to decide. What did the wise translator, the instrument of God, do? He translated the verb by a Latin *deponent*, where the 2 pl. ending (medio-passive formally) is -mini, indiscriminately indicative and imperative!

Twelve years later on our last visit to the physically deteriorated, mentally alert sage, we entered his study to find him lost obliviously in a book. When, after some time, he became aware of our presence, we made enquiry, what was the subject of his concentration? Why, he was pondering with his head buried in his Hebrew Bible who הלל בן-שחר was in Isaiah 14:12, what could be the mythological-linguistic relationships to this titular "Heylel (etymology?), Son of Dawn (a god *Aurora* vel sim.)." The saintly teacher always maintained a union of his languages and his Bibles. Amongst what we found, when cataloguing some of his library that we had inherited, were literally hundreds of Gospels,

¹John 5:39 ἐρευνᾶτε τὰς γραφάς
ὅτι ὑμεῖς δοκεῖτε ἐν αὐταῖς
ζωὴν αἰώνιον ἔχειν.

*scrutamini scripturas
quia vos putatis in ipsis
vitam aeternam habere.*

not only in ordinary languages, but things like Albanian, Ruthenian, South American Indian languages, and Siberian languages. Next to linguistics, Kerns loved astronomy. Perhaps his perfect deity would be he described in Ps 147:4:

ὁ ἀριθμῶν πλήθη ἄστρον	מונה מספר לכוכבים
καὶ πᾶσιν αὐτοῖς ὀνόματα κάλων. ²	לכלם שמות יקרא

We shall now conclude our preface of conceptual framework with a little indication of our method. We intend to concentrate on fixing "meaning" through 1) parallel passages, 2) mutual translatability of words from source to Targum, a term we will extend particularly, for the present purpose, to include Slavic translations. Why will become obvious--Slavic is here our "Hittite 'connection'", for alas, there is no Hittite Targum. If there were, for sure it would yield the very results that Slavic does. This "could be" impossibility--a Hittite Targum--there will not remain much doubt what word it would use for the word (*drug-*) we will see in Slavic. Parallel semantic sets (semantic sets which offer reciprocal confirmation) is the second law for credible etymologies, second only to *Lautgesetz*. If this law of parallel semantic sets is not *ausnahmlos*, it is nevertheless *unentbehrlich*. There is only one true way to get a word's meaning, and this too is a law: passages over dictionaries; passages, passages, and more passages. Our last law is: *Wörter und Sachen* is to be extended to non-material *Sachen*: concepts. Rather than giving fictive examples of what we intend, we will allow the procedure to present its own force as the case unfolds itself. We will be undertaking a broad sweep, a wide panorama. Such a procedure has certain inherent dangers: the element of finesse

²"He counts the stars' number and assigns them all names" is, of course, a representative of well-documented A.N.E. conceptual idiom: "to name, give a name to" = "to bring into very existence"; YHWH is usually assumed to be an original epithet (predicate verb) of the Hebrew God as "He brings into existence." On the Semitic idiom see e.g., Heidel 1951:18, fn. 18.

(precision) may occasionally lack in a given item, which, if it were alone the object of an entire study, would show more nuances. The line between a broad spectrum theory that is so pregnant with explicatory puissance that it solves many and numerous, even unrelated problems, and the kind of study that is procrustean, fitting data to match the bed, is thin indeed. Obviously the scholar must have the judgment to see when he begins to overstep the line.

Now, some 2½ years after starting on our journey that is at last drawing to its conclusion, we have arrived at terminals that we had only inklings of at the beginning. These terminals, which are the outer extremes of numerous spokes radiating from the epicenter of our thesis, are each interesting in and of themselves; but this is not so important in their being; what is so meaningful about these varied terminals is that they each--after having travelled every one his own path--radiate back, as it were, to the center itself, thereby proving the initial thesis. The epistemology is complex, but let it suffice to say that this is not a manifestation of circular reasoning; rather it is a demonstration, powerful in the extreme, of the validity of the initial theory itself. We conclude this "goals and methods" section with a reiteration of principles. Linguistics must serve our understanding of man and his history. Towards these ends we employ *Wörter und Sachen* (inclusive of *Begriffe*), non-mechanistic etymological pathways (particularly 1. the areas of semantic *sphere* of a root and its derivatives, 2. patterns of "conceptual and semantic cognates," 3. elucidation of concepts by the method of mutual translatability).

It is a great pleasure to express the debt we owe to חברים ורעים ("colleague-friends," a Hebrew expression whose constituent parts will form the core of this paper). The author greatly cherishes the continual encouragement he has received during numerous difficulties from these two friends. Prof. Gary Rendsburg's ongoing sharing of his wisdom on the greater Biblical world and his constant supplying the author with copies of invaluable material is most gratefully acknowledged. To Dr. Shlomo Sprecher, who besides inducting the author to Targum,

often lent unstintingly of his sparse time to assist with specific problems in this article, we owe a great debt of appreciation. He is certainly Σολομῶν ὁ ἱατρὸς ὁ ἀγαπητός (to paraphrase Colossians 4:14).

We wish here also to express our thanks to Prof. Frederick W. Bush who at a much earlier stage of writing so benevolently wrote us a four-page (single-spaced) critique of our article in its embryonic stages, a critique which compelled us to do much rethinking and served greatly to improve the resulting paper.

Before beginning the paper proper, we would like to beg the reader's indulgence for any traces of repetition or other unevennesses which he may detect. These are manifestations of the paper's growing pains during its 2½ years of production. Unfortunately, it has not been possible to totally obliterate all traces of the paper's course of development. To have refused to present the paper before all unevennesses were ironed out would result in its never appearing. In this regard we take comfort from the words of P. Antin: "Mieux vaut sans doute offrir au lecteur un travail incomplet mais d'une certaine utilité que d'entamer des recherches infinies suspendues par la mort" (quoted by F. Talmage in a book review in *Association for Jewish Studies Newsletter* # 26).

II. CHAPTER, VERSE, AND VERSIONS

Genesis 23:2 reads:

Sarah died in Qiryat Arba³ which is
Hebron in the Land of Canaan.

ותמת שרה בקרית ארבע הוא
חברון בארץ כנען.

From the time of the Targumim through the mediaeval commentators to the

³In the Masoretic Hebrew (MH) we will at this stage merely transliterate the name (ignoring *aleph* and *ayin* for the time being); almost all the versions (we include under this rubric Samaritan Hebrew) imply a particular "understanding" of the name. In accordance with our understanding of their understanding, we will attempt in each case a translation rather than the transliteration we have contented ourselves with for MH.

scholars of the modern period there have been endless attempts to understand the older name of Hebron. Onqelos and Pseudo-Yonathan merely reproduce the name without comment. The fragmentary Targum Yerushalmi "translates" the name and renders the verse:

Sarah died in the City of the Heroes.⁴ ומיתת שרה בקרית־ההון דגבורי־יא.
(All that survives of verse)

Targum Neophyti renders the verse:

And Sarah died in the city of the Four Patriarchs which is Hebron in the Land of Canaan.⁵ ומיתת שרה בקרית־הון דארבעתי אבהתא.
היא חברון בארעא דכנען.

The Samaritan Hebrew (SH) reads:

Sarah died in "The City of Four"⁷ ותמת שרה בקרית הארבע אל עמק
alongside of "Valley" which is Hebron היא חברון בארץ כנען.
in the Land of Canaan.

The Samaritan Targum (ST) literally reproduces the wording of the SH:

Sarah died in "The City of Four" ומיתת שרה בקרית ארביעתה⁸ ליד עמק
alongside "Valley" which is Hebron הי חברון בארע כנען.
in the Land of Canaan.

The LXX renders similarly:

Sarah died in "City Arbok," which is Καὶ ἀπέθανε Σάρρα ἐν πόλει
in the (river-)basin, which is K^hebon Ἀρβόκ, ἣ ἐστὶν ἐν τῷ κοιλῶματι,
in the Land (of) K^hanaan. αὕτη ἐστὶν Χεβρῶν ἐν τῇ γῇ
Χαναάν.

The Vulgate avoids all this extra stuff and has:

⁴We will shortly see where Targum Yerushalmi (TY) derived its translation from.

⁵Neophyti is quoted from Diez-Macho.

⁶In order to make "4" agree with a masculine noun (אבהתא "patriarchs"), TN has to change ארבע (f) of MH into an underlying ארבעה (m). M (= variantes o glosas marginales de Neophyti I) reads דגבורי־יא.

⁷We translate 'arba^c here as "4" because the prefixing of the definite article to the rectum, though definitizing the entire construct phrase, is only necessary when the rectum is perceived as a common (not a proper) noun.

⁸ST, like TN, makes "4" (the ארבע [f] of MT) into a masculine numeral; but, differing from TN, it does not follow the "number," (so we understand ST to have understood 'arba^c) with a noun ("patriarchs" of TN); but, agreeing with SH, it definitizes the "number."

And she died in the city Arbee,
which is Hebron, in the Land (of)
Chanaan.

*et mortua est in civitate Arbee,
quae est Hebron, in terra
Chanaan.*

III. MIDRASH AND COMMENTARY

Bereshit Rabba says:

It was called by four names, Eshkol, Mamre, Qiryat Arba and Hebron; and why do we call it Qiryat Arba? "Arba" because 4 just men lived in it, Aner, Eshkol and Mamre and Abraham; because 4 just men were circumcised in it, Aner, Eshkol and Mamre and Abraham; because 4 just men were buried in it, Adam, Abraham, Isaac and Jacob; because four matriarchs were buried in it, Eve, Sarah and Rebecca and Leah; because of its lords, who are four, Anaq and his 3 sons (Numbers 13:22). Rabbi Azaryah said [it is] because from there that our father Abraham went forth and because he pursued four Cosmocrator kings; because it came up into the lot [was, in turn, assigned to] of 4 [possessors], first to Judah, and thereafter to Caleb, and thereafter to the Levites, and thereafter to the Cohens. And it is one of the 4 variegated-in-color places which are in the Land of Israel, and these are they: (Rabbi Yishaq and a number of scholars --) Rabbi Yishaq says "Dor, and Neft-Dor, and Timnat-Serah and Hebron." But another group say

ארבעה שמות נקראו לה אשכול ממרא קרית ארבע וחברון; ולמה קורא אותה קרית ארבע; "ארבע" שדרו בה ד' צדיקים ענר אשכול וממרא ואברהם; שנמולו⁹ בה ד' צדיקים ענר אשכול וממרא ואברהם; שנקברו בה ארבעה צדיקים אדם הראשון אברהם יצחק ויעקב, שנקברו בה ארבע אימהות חוה שרה ורבקה ולאה, על שם בעליה שהן ארבעה ענק רג' בניו.

א"ר עזריה שמעם יצא אבינו אברהם שרדף אחרי ארבעה מלכים קוזמוקרטר-רינן. ושהיא עולה בקרנסין¹⁰ של ד'. בתחלה ליהודה ואח"כ לכלב ואח"כ ללוים ואח"כ לכהנים. והיא א' מד' מקומות מגונים שבא"י. ואלו הן. ר' יצחק ורבנן. ר"י אמר דור ונפת-דור ותמנת סרח וחברון.

⁹The only significant variant we find in Weis' edition is שמלו בה (4 just men *circumcised* in it) vs. the שנמולו בה ד' צדיקים (4 just men *were circumcised* in it) of other editions. This reading seems just too peculiar to let us follow the principle of *lectio difficilior*.

¹⁰With Jastrow (1950:1377) under קלירוס, obviously a corruption of this latter, which is a borrowing from Gk. αλῆρος.

"Denah and Qiryat Sanah and Timmat-Serah and Hebron."

ורבנן אמרי דנה וקריית סנה
רתמנת סרח וחברון.

Rashi explains the name:

Because of the four Anaqim who were there, Ahiman, Sheshai and Talmai and their father. Another reason: after the four couples who were buried there, man and wife (B.R.): Adam and Eve; Abraham and Sarah; Isaac and Rebecca; Jacob and Leah.

על שם ארבע ענקים שהיו שם אחימן
ששי וחלמי ואביהם. דבר אחר על
ארבע זוגות שנקברו שם איש ואשתו
(ב"ר) אדם וחוה. אברהם ושרה.
יצחק ורביקה. יעקב ורלה.

Rashi thus adds nothing to *Bereshit Rabba*. Ibn Ezra says of Arba:

The name of a great man amongst the Anaqim, and as for his being Abraham¹¹ this is [only] by way of homiletical interpretation, for he was not one of the Anaqim.

שם אדם גדול בענקים ולהיותו
אברהם הוא על דרך דרש. כי לא היה
מהענקים.

The commentary on Ibn Ezra adds:

i.e., the homiletical interpretation in *Midrash Rabba* that our father Abraham was the great man (the greatest) amongst the Anaqim.

ר"ל הדרש במ"ר אשר א"א היה
אדם הגדול בענקים.

The best description of Midrash is to be found in Lieberman 1962:48 (1977:290), where it is stated to be the exact equivalent of ἐπερωτήσις "enquiry," the attempt to explain the why and the wherefore, the Gk. δὲ τὸ ἐπερωτῆσαι and the Rabbinic מפני מה. Lieberman also tells us that Targum = ἐρμηνεία, both translation and interpretation.

Thus we see that the traditional exegesis offers two explanations: 1) that Arba is the word "four" and 2) that the city is named after an (eponymous) ancestor/founder. The former is the explanation of Neophyti and *Bereshit Rabba* (followed by Rashi, and perhaps implied in SH and ST), while the latter is the explicit explanation of Ibn Ezra and implicit in the translation of Targum Yerushalmi and was probably also

¹¹Another possible translation of these words is "as for its (referant i.e., the name's referant, the word 'arba's referant) being Abraham, this is only by way of *derash*." In this case we fail to see how or find where Arba could be equated with Abraham, except it be by a grapheme equation אַבְרָהָם:אַרְבָּע. Such things *do* occur in exegesis.

being alluded to by the author of B.R. in his reference to Anaq and his sons. These latter all have in mind, of course:

Formerly the name of Hebron was the City of Arba, the greatest man amongst the Anaqim was he. (Joshua 14:15) ושם חברון לפנים קרית ארבע האדם הגדול בענקים הוא.

The City of Arba (the father of the Anaq), which is Hebron. (Joshua 15:13) את קרית ארבע אבי הענק היא חברון.

The City of Arba (the father of the Anaq), which is Hebron in the mountain of Judah. (Joshua 21:11) את קרית ארבע אבי הענוק היא חברון בהר יהודה.

In the Targum (there is only one to the non-pentateuchal books) the three Hebrew words *ענקים* (ה), *הענק*, and *הענוק* are all rendered as *גברי* "hereos (giants)" pl.!, in 14:15 *אנש רב בגברי* הוא, in 15:13 *אבוהו* *גברי*, and the same in 21:11. If we could entertain any doubt with reference to a scribal or such error of pl. noun for sg., this is at once excluded by the redundancy mechanism of the Aramaic genitival construction employed, literally "their father of the heroes." A most interesting paper on the alternate genitival constructions in Neophyti was delivered by David Golamb at the 1980 meeting of the American Oriental Society: "Nominal Syntax in the Language of Codex Vatican 1: the Genitive Relationship".

Thus, though the tradition divides between seeing "four" in the name and seeing a homonymous eponymous founder in the name, it is the latter interpretation alone which the Scriptures offer. The Bible itself never connects the city with the homographic word for "four." The ancient Hebrews also had a tradition that "Hebron was built seven years before Zoan in Egypt" (Numbers 13:22), and that the three sons of Anaq were there at the time that Moses sent out the scouts to spy out the land (cf. also Judges 1:10).

Although many modern scholars have sought to elucidate the name, we will content ourselves with citing the opinions of three of the most eminent. Speiser (1964:169) says "not improbably 'four' was merely a popular adaptation of another name, perhaps non-Semitic, which is exactly

what happened with the celebrated Mesopotamian city of Arbilum (older Urbilum), incorrectly etymologized as 'four gods.'" Later on (p. 172) he says: "the change in names [to Hebron] would...have coincided with a change in ethnic composition." Malamat (1962:146, fn. 13) says the city was so called after the "confederacy of four originally nomadic clans of Korah, Tappuah, Rekem, and Shema (I Chron 2:43) which settled there." Gordon (1970:199, fn. 7) says: "*Qryt 'rba*^c...probably means 'The City of (the divine) 'Four' with which we compare ^{āl}*arba'-ilu* 'Arbela' (now Irbil), meaning 'Four is God.'"¹² Thus, of the modern scholars, Malamat and Gordon (with different explanations) subscribe to the "four" theory, while Speiser was prone to see an homonymous pre-Hebrew name. On Gordon's Mesopotamian comparison, cf. the comments of Speiser above. An exactly analogous situation may be cited in the way that the Akkadian speakers treated the name Babylon. "The toponymy provides place names neither Sumerian nor Semitic: Babilla is one, re-interpreted in Akkadian as Bab-ilim, 'Gate of the God.'" (Bottéro, Cassin and Vercoutter [1967:67].) Maisler ([Mazar]1949) devoted a paper to the "four" theory.

We are thus faced with the question: are we bound to wander in the millennia old impasse of "four" vs. homophone or -graph, each picking which he chooses, or is there a tested and proven method to solve problems like this? We believe there is, and in sections IV-X we shall gradually unfold the method and attempt to bring our case to a water-tight state of sealedness.

IV. חֶבֶר / *HBR*

Let us start the arduous road to the solution with a consideration of the root of the prime name: חֶבֶר-נֶגֶד. In this section our considera-

¹²A further, more detailed discussion of Gordon's "# divinities" is given in Arbeitman 1981a.

tion will be but preliminary and roughly-hewn, no attempt at deep precision, semantic or etymological, will become possible until after sect. VIII, by which point the other key members of the association of names (*Namengesellschaft*) will have been fitted into their proper places. Then, and only then, can the true *hbr* reveal itself. Enough of mysticism; now to facts! The *Torah Shelemah* gives the following quotes from Rabbinic literature on the name Hebron:

After this very *friend* who purchased the Cave¹³ and this is Abraham and it adds:

Because the Mighty ones of the world (the patriarchs) *associated* there.

Moderns have, of course, offered other etymologies. The Encyclopaedia Judaica cites suggestions (without giving sources) that the name derives from *habiru* or is a cognate of Arabic *haber* "granary."¹⁴ Šanda (1932) suggested that the city was named after the milchcamel, Arabic *habr*. The first of these suggestions actually derives from Hommel (1897:232), who arguing against the association of the *habiru* with the *ʿibrīm* (Hebrews), stated: "On the contrary, it was from the Khabiri that Hebron (formerly known as Four-town, or Kiryath-Arba...) received its later name of Khebron (originally Khabirān, *i.e.* the city of the Khabiri)." We shall return to this pregnant page of a great pioneering book on page 1018.¹⁵ Let us mention the quote (see fn. 15) in Vilnay

¹³We shall have something to say on this cave in section XV.

¹⁴The actual quote is really embarrassing: "The name Hebron is explained as deriving from the root *hbr* (friend), the name **habiru*, or the Arabic word *haber* (granary)." We have changed these unfortunate last words to "is a cognate of..." Ancient Hebrew (at least 1800 BCE) toponyms don't *derive* from Arabic (arrived in imperialist conquest of Eres Yisrael + whole [Berber-Egyptian-[Coptic]-Aramaic-Phoenician] Hamito-Semitic world [granted Akkadian and Ugaritic were no longer alive] first in seventh century CE! Of the whole Hamito-Semitic N. Africa-N.E. continuum, only pockets of [neo-]Aramaic and Berber continued, and in the "Horn," Ethiopic languages).

¹⁵Hommel goes on to state that the "original meaning of the word Khabiru [is regarded by some scholars] as a generic term for an ally, or confederate (cf. Hebrew *khaber* = companion), and possibly they are

(1975:32): "[Hebron is called City of Four] because the soul of every-one who is buried there ascends to heaven and unites מתחבר (*mithabbēr*) with the Four ארבע (*'arba^c* [consonantly *'rb^c*--a point that will be-come paramount in section VII]) groups of angels of the divine Presence." Vilnay also offers that "the sages of Israel [say that] this name is made up of two Hebrew words: חבר נאה (*ḥābēr nā'eh*) agreeable friend," designating Abraham "who was the first agreeable friend of God....The Arabs call the city *el-Khalil*--the Lover or the Friend, [for] that is Abraham's title in the tradition of Islam. His full name is خليل الرحمن /*ḫalīl ar-raḥmān*--Friend of the Merciful." Let us add that נאה means rather "fitting, suitable, right" as e.g., Proverbs 17:7: "Fine speech is not *becoming* to a fool" (*RSV*), "Lordly words are not *fitting* for a fool" (*American Translation*), "Honest speech is not to be *expected* from a knave" (*Anchor Bible*). The Hebrew word here (נאה) is, of course, coradical with Vilnay's *nā'eh* "agreeable," and is rendered Targumically by יאי "fitting, right"¹⁶ (cf. Jastrow s.v., where a quote from the Talmudic tractate *Tamid* is given: "לא יאי למלכא כזב" ("Falsehood would not *become* a king"). For further elucidation of the basic, elemental meaning of what kind of Friend Abraham is to God, we can look at the LXX and Vulgate renditions of Pr 17:7: οὐχ ἀρμόσει and *non decent*.

right." We are extremely grateful to Gary Rendsburg for finding this original of the Enc. Jud. anonymous allusion. The mentioning of such important theories in semi-popular/semi-scholarly reference works without ascription is inexcusable. According to the same Enc. Jud. article: "the name is also found in Arabic sources" in two variant forms: *Ḥabrān* and *Ḥabrā*. On this we will have something to say in section VI.

One can only be more than grateful for serious popular collections like Vilnay's. Unfortunately his referencing style leaves a serious problem for the few who wish to use him as an opening to sources. In the present case 4 stories concerning the name of Hebron are referenced all together in fn. 28, where he gives 5 sources. We have examined 3 of these sources (Isaiah and the two Talmudic passages) without being able to trace either of the enticing aetiological etymologies presented here. Another (7 vol. set) book popular, in the very best sense of the word, Ginzberg's *Legends of the Jews* is, au contraire, a model of referencing.

¹⁶See Appendix to this section.

Here we come to anticipate conclusions to be arrived at later. Let us only emphasize at this point that it was only the *concept* "fitting" that we started out "to play around with" here, and this led us to a key in the chain, Greek ἀρ-, a conceptual lexical round robin that we will often see happening. Alcalay gives several good examples from Mod. Heb. of uses of this root: כָּךְ נָאֵה לוֹ "it serves him right," הוּא נָאֵה לוֹ "the right man in the right place" (literally, "he is *suited* to his place and his place is *suited* to him").¹⁷

Outside all these "playful" etymologies, the consensus (e.g., Brown, Driver & Briggs and Koehler-Baumgartner) remains that the word derives from the root meaning "to associate," from which Hebrew חֵבֵר "companion, friend." This consensus of the tradition and the modern lexicographers is surely right and serves as our starting point. The meaning thus obtained for חֵבֵר is "The One of (the) Friend" i.e., "City of (the) Friend," exactly as יָרֵחַ, containing an allomorphophone of the same suffix, means "The One of the Moon" (see sections VI and XI) and שֶׁמֶשׁ means "The One of the Sun" i.e., "Devotē of the Sun" (see Arbeitman & Rendsburg 1980, section V). At least this is the only working definition of *Hbr-ōn* that we can presently feed into the data bank; thus we adopt it provisionally as a concept we can work with until that time should come (section V) where we will find ourselves able to obtain deeper precision. For the moment we have but a rough hewn entry; later we will have a precision, the ineluctability of which will be cemented by its foundation being enmeshed in a closely woven concatenation, a complex of multidirectional concomitant ramifications. Before getting there, however, we will examine in laborious detail root meanings, suffix meanings, and concepts, and mutual translations of nouns,

¹⁷We deliberately postpone discussion of some other major etymological discussions of Hebron, which great scholars have proffered, until section VIII. This we do only out of a pressing desire to begin our journey, not from any lack of respect for the attempts of our illustrious predecessors.

verbs, toponyms, and ethnonyms.

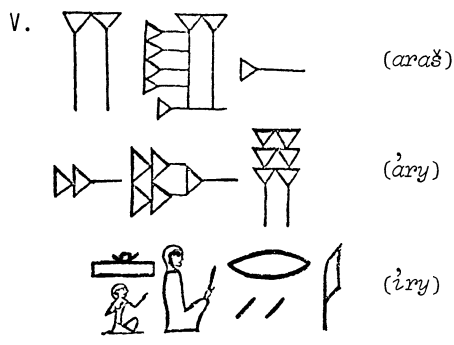
Appendix on יאי (y'y) "Fitting"

The definition given by Jastrow "fitting, right, nice (good/better)" is too circumscribed to cover the range of this word. The semantic sphere which is offered by the cognates is present in the Aram. adj. as well. Gesenius (s. Heb. verb יאה "sich ziemen, gebühren") compares Arab. لطف lūṭṭ "milde behandeln" and Eth. *yawha* (defined by Lambdin as "to be gentle, mild, modest,...; to please, charm, persuade, entice"). It seems useful to connect Arab. هيا (*hā'a*)/هيأ (*hayu'a*) "to be shapely, well-formed, beautiful," 2nd form "to prepare, fix up, put in order," 3rd form "to agree," 6th form "to adapt one to the other, be in agreement" (Wehr, s.v.). The usages of יאי in the Targumim to Gen 29:17 present a bifaceted problem: (1) how the various Targumists understood the Heb. *Vorlage* and (2) the applications of יאי. The Heb. reads: ועיני לאה רכות ורחל היתה יפת-תאר ויפת מראה. The first part, that concerning Leah, is rendered by O.: ועיני לאה יאין "Leah's eyes were lovely." Ps. Y., Y., and the Vulg. have a common midrashic interpretation; they read resp.: ועיני לאה הוון צירנייתן דבכיא ובעיא מן קדם יי דלא יזמן לה לעשו רשיעא "Leah's eyes were bleary/tearful from weeping and imploring from the Lord not to assign her to Esau the Wicked"; ועיני לאה הוון רכיכון על דהות "Leah's eyes were weak from her weeping and praying that she not ascend into Esau's portion" (cf. the same idiom on p. 897, where a Gk. borrowing is used in the place of *māl*, used here); *Sed Lia lipp̄ts erat ocul̄is* (where the epithet of the eyes, cognate with Gk. λιπαρός "greasy" [cf. Arbeitman 1980c] is definable by its Plautine parallelistic employment: (*matrem*) *cubare in navi lippam atque ocul̄is turgidis nauclerus dixit* [*Miles Gloriosus* 1108])).

	Leah's Eyes	Rachel's Attributes
Heb.	<i>rkwt</i>	<i>ypt t'r</i>
T.O.	<i>y'y'n</i>	<i>špyr' (b)ryw'</i>
Syr.	<i>rkykn</i>	<i>špyr' (b)hzw'h</i>
T.Ps.Y.	<i>šymyyn</i>	<i>y'y' (b)ryw'</i>
T.Y.	<i>rkykn</i>	<i>y'y' (b)ryw'</i>
T.N.	<i>zqypn</i>	<i>y'y'h (b)rybw[h t]h</i>
T.S.	<i>rkykn</i>	<i>y'y'h špr</i>
LXX	<i>ἀσθενεὺς</i>	<i>καλὴ τῷ εὐδεῖ</i>
Vulg.	<i>lipp̄ts</i>	<i>decorā faciē</i>

The midrashic interpretation of N. is similar: עיני דלאה הוויין זקיפן יעקב זקיקא "Leah's eyes were elevated in prayer as she implored to marry (*vsb*) Jacob the Righteous." The latter differs, however, in that, while the adjs. used by Ps.Y., Y., and the Vulg. are all reasonable understandings of *rak* of the *Vorlage*, N.'s adj. needs must be conceived of as pure expansion. Y., along with T.S. and the Syriac, employs an adj. coradical with the *Vorlage* adj.; however, the Aramaic versions are not to be classified on the basis of those that employ *vrkk* vs. those that employ other adjs., but rather on the basis of those that expand to "tell" us what *rak* means vs. those that allow us our own understanding (T.S. and the Syriac alone). O. seems to have made the most suitable translation of all the versions. Speiser (1964:225) comments: "...tender. Not necessarily 'weak,' for the basic sense of Heb. *rak* is 'dainty, delicate'.... What the narrative appears to be saying is that Leah had lovely eyes, but that Rachel was an outstanding beauty." For further corroboration of Speiser's "basic sense" of the word, cf. Arbeitman 1980a:80. The Heb. adj. is thus susceptible to either (1) O.'s *y'y* or (2) "bleary/weak (tender)" of other versions. Another aspect of *y'y* is to be seen in the Aram. renderings of the description of Rachel, where they all bifurcate the repeated יפ of the *Vorlage* into distinct adjs., *y'y* and *špyr* (without accord, however, in the placement of the parallelistically employed adjs. The LXX and the Vulg. reflect *y'y* on the left side, as given on our chart). In the T.S. the two synonyms were brought together to one side of the parallel, which now reads "lovely, beautiful," while the other side reads "lovely of appearance." To render two synonyms for "form/appearance" of the Heb., O., Ps.Y., Y., and N. employ two different Aramaic nouns, derived from competing "see" roots: *vrzy* and *vr'y* (/rēw/ < */ri'w/ as /rēš/ "head" < */ri'š/). All four concur in employing *vr'y* not on the side of the parallel where the Heb. employs it. The conjunction we see in the description of Rachel, that of *y'y* and *špyr*, will serve us later in our discussion of descriptions of the universe (*špr wtqn*, κόσμος, *ḡtā*)[See p.1026]

For the calligraphic adornment which endues the following section heading, the author is most beholden to Gilbert-James Ayala.



ΔΡΧΓΖ

(drugū)

ḡḡḡ (hbr)

ET SIMILIA

a. From Indo-Iranian/Anatolian Through Slavic

Having examined first the root of *Hebr-ōn*, we now proceed to examine the root of *'ar-ba^c*, the alternate name. We consider that at its base lies Hittite *ara-*, and the complex reasons for this conclusion will reveal themselves step by step only in the unfolding of this chapter. Benveniste (1962:108-110) summarized his observations on this word as follows:

1. Le neutre *āra* désigne une notion...de la morale religieuse: "le bien," ce qui est conforme à la norme *ethnique* [italics ours, see section XII]; *āra eš-* "être ... approprié."
2. On emploie même UL *āra* comme expression nominale "ce qui n'est pas bien, ce qui contrevient à la norme [mores]."
3. [*āra est*] un terme [qui doit] appartenir au fonds ancien du lexique.
4. En indo-iranien, *ara-*...n'existe qu'en composition, dans véd. *arāmati-*..."pensée correcte"... "pensée conforme."
5. ...av. *rapīθwā-*...[avec] l'aphérèse curieuse, [désigne] "midi" < "(moment de la) nourriture appropriée; temps propre au repas." ...La forme gathique [sans l'aphérèse de l'avestique propre] est *arēm . pīθwā*, dans la séquence... *usā arēm . pīθwā xsapācā* "aube, midi et nuit" (Y. 44.5).
6. [Parallèlement on a aussi] les composés *arēm . mati-*, *-uxti-*, *-varēsti-* "pensée, (parole, action) correcte."
7. Le problème est susceptible de prendre une extension plus grande encore, si l'on inclut ...l'*homophone* [italics ours--the reader will understand why], hittite ^{LU}*ara-* "ami, compagnon." Les deux *ara-* ne sont pas inconciliables.
8. [A] la locution [hittite] *araš aran* pour "l'un l'autre"...nous ...trouvons un parallèle...dans v. sl. *drugŭ* "φίλος" et l'expression *drugŭ druga* "ὁλλήλους"; russe *drug* "ami": *drug druga* "l'un l'autre" [our overemphasizing of ὁλλ- and au- will become meaningful first in section XIII]; tchèque *druh druha*. Le passage à la fonction de réciprocité, pour hittite *ara-* comme pour sl. *drug*, tient à ce que 'ami' joue comme terme interchangeable, "camarade, compagnon," ce qui rend compte aussi de russe *drugoj* "deuxième, autre." On peut alors imaginer que h. *ara-* "compagnon" signifie proprement "qui s'ajuste, qui s'adapte"...le neutre *āra* [désigne] la "convenance," l'"appropriation" comme norme morale..., ce qui est... l'équivalent *formel et notionnel* [italics ours, a main concern of ours] de ved. *ṛta-*.... ^{LU}*ara-* [=] "membre d'une paire"(< **ar-* ["adapter"]).
9. This wonderful exposition Benveniste concludes with a handing-on of the work (sacred work): "Chacun pourra élaborer une démonstration dont nous nous contentons d'indiquer les jalons."

In another work (1973:299-304)¹⁸, the master returned to this subject. Some of the conclusions offered in this section of his paper are:

1. Skt. *ārya-* was first a social qualification and only, secondarily, a self-designation of the Indo-Iranian community.
2. It is a designation which free men apply to themselves as opposed to slaves (in Indic the antithesis is *dāsa-* "enemy, slave").
3. The genitive plural *aryānām* "[Land] of the 'arya's'" > *ērān* (> *īrān*), the name of the country alternately known, at various times, as Persia.¹⁹ The Ossetes in the Caucasus are descendants of the ancient Skythian *Alani*, a name which < **Aryana-*.²⁰
4. *arī-* sometimes designates a being considered friendly; at other times, one considered hostile; thus the dictionaries sometimes translate "friend," sometimes "enemy."²¹
5. The connotations of *arī-* do not affect the true sense of the word. It designates a man of the same people as the one who speaks about him.²²
6. The god Aryaman in the Vedas establishes friendship and oversees marriages [thus an "alligator"²³, a *ἵκτωρ*, the "joiner" κατ'ἑξοχῆν]. In Iranian mythology, he is a healer [see p. 911 below for a preliminarily offered etymological basis for this function].

¹⁸We regret having to summarize from the Eng. trans., but, alas, we lack access to the French. The summary, given here, doesn't intend, at any rate, to be a verbatim quotation of Benveniste's views.

¹⁹*Persia* being properly only the name of a particular region, as is the case also with Skt. *Sindhu* > Pers. *Hindu* (name of a region in Darius' inscriptions), which, in turn, > (through the medium of Gk. Ἰνδία [psilotic]) the universal name for the entire country; similar is the adoption by the Romans of the region name *Graecia* as the name for Hellas.

²⁰On the survival of Ossetic in 1500 C.E. in Hungary (!), see Zgusta.

²¹Benveniste here gets embroiled in an exposition of the ways-out of this problem that have been offered by P. Thieme and G. Dumézil. Shortly, we will be summarizing Puhvel's arguments, including his conclusions on Thieme's solution-hypothesis for *arī-* as a term that bifurcated into "friend" and "enemy." Benveniste offers an attempt to justify a supposed *unitas oppositorum*. Finally, he "plays" with a theory that the "*arī-* formed the other moiety in an exogamic society" (in the case he discusses, specifically a father-in-law) and that these moieties maintained relationships of exchange and rivalry [the natural {?} competitiveness inhaerent {?} in mutuality-exchange relationships {?}]. Similar etymologies have been offered for Heb. זונה "whore" (Koehler-Baumgartner).

²²Not essentially different from Yiddish *lantsman* (pl. *lantslayt*).

²³We use this Latin word as a terminus technicus with reference to its etymological descendants *ally* and *alliance*, though we realize that the item appears in Latin only in the works of L. Iunius Moderatus Columella, the writer on husbandry, (the most general real Latin root for "joinings" of the nature we are concerned with, various interpersonal

7. As a common noun, *aryaman-* in the Gathas are confrères, the members of a religious confraternity.²⁴ [This is apparently the word *airyaman-* in Yasna 49.7, 32.1, 33.3, 33.4, 46.1 which Insler (1975) translates as "clan" and Humbach (1959) as "Stammesverband"].

8. Etymological connections with the Greek prefix ἄρι- and with ἄριστος are possible, but again it is mutual behavior (friendly or hostile) that is more the essence of the word's meaning than any suggestion of eulogy.

9. Only a new analysis based on new facts would permit a definitive pronunciamiento on etymology.

Benveniste's "handing on" of the work has found a worthy disciple in Puhvel, whose work we will proceed to summarize. Our own work will form a third and further continuance of this sacred work, and carry it to realms undreamt of by the great and lamented French savant. Jaan Puhvel's (1978:335-43) article is devoted to the Indo-Iranian deities Mitra, Aryaman, Varuṇa.²⁵

1. Thieme is right in viewing *aryamān-* as an abstract derivative with a suffix **-men* or **-m̥n* [cf. now Malamoud (1975:398)].

2. Dumézil is compellingly right in seeing in Vedic *aryamān*/Gathic *airyaman* "the abstract embodiment of the positive self-identification of the *social in group* [italics ours], something like 'aryanhood.'"

3. Hittite *ara-* means "member of one's group, fellow, peer, friend" and is a cognate to Skt. *ārya-* and Avestan *airya-*. It implies mutuality and is even used as a reciprocal pronoun in iteration *arāš aran*, like Slavic *drugū druga* "each other."

4. The derivative *āra-* (with long *ā*) means "right, proper" originally "appropriate to the in-group, communally acceptable, congruent with social order" and is found especially in the interdiction *natta āra* "it is not right" i.e., "it is non-Hittite behavior."

liaisons being, of course, *socio*). No reference to the homonymous reptile is intended (this latter word, of course, contains a frozen [vacuous] deictic < Sp. *el lagarto* which < Lat. *lacertus* which, through French, > Eng. *lizard*; cf. preliminarily Arbeitman 1980c; eventually Forthcoming b will deal *in extenso* with this whole area).

²⁴Cf. (conceptually) the Lycian *mindis* and Jewish חברה קדישא, both specifically "burial confraternities." See our remarks in the postscript.

²⁵The following represents an almost verbatim reproduction of Puhvel's words. It is not presented as a quote though.

5. There is also a divinity $\bar{d}Ara\check{s}$, a personified abstraction, (grouped in the god-list KUB XVII 20 II next to $\bar{d}Hinkallu\check{s}$ "Abundance" and $\bar{d}Kelti$ "Well-Being").²⁶ [The Lycian name $\bar{A}pa\mu o\alpha s$ cited in Billigmeier (1970:180) means "Devoté of $\bar{d}Ara$ ".]

6. Finally, there is the derivative adjective *arawa-* "free," Vedic $\bar{a}rya$ -/Avest. *airya-* are connected with *arī-*/*aryā-* "righteous, loyal, devout" and are derivatives of an Indo-Iranian **ara-* "fitting, proper."

7. Perhaps there is a root connection with Ved. $\eta t\bar{a}$ - or perhaps with Mycenaean *a-ro₂-e* /*áryoēs*/ "better" and Gk. $\acute{\alpha}\rho\iota\sigma\tau\omicron\varsigma$ "best."

8. We arrive at an IE noun-adjective **aro-* or **ari-*, **aryo-* with a derivative **āro-* or **āryo-* and an abstract **aryo-m₃* "belongingness, propriety."

9. To be compared in the West are Old Irish *aire*, gen. *airech* "free, noble,"²⁷ [Krause (1937) seemingly succeeded in reconstructing a proto-Nordic **aryaR* "noble, aristocrat," basing this form on evidence from Runic inscriptions (not later than 400 C.E.). Outside of Pokorny's comments (p. 67) to the effect that if Krause is right, then we would need to set up an IE **aryo-* "lord, ruler" that would have coincided in Skt. with a derivative of *arī-* "stranger," one doesn't see Krause's word cited in any other of the discussions of the *ara-/ari-* group].

10. The whole convoluted problem of finding a means of reducing "friend" and "enemy," the two equally protruding meanings of *arī-* to a least common denominator à la Lat. *hostis* "guest/enemy" both deriving from a basic "stranger" (as in the theories of Thieme and Benveniste which we mentioned in fn. 21) is with admirable prudence separated by Puhvel from the Vedic $\bar{a}rya$ -/Avestan *airya-* problem as follows: there existed a pair of Vedic homonyms: *arī*-¹ "stranger" (> "guest" or "enemy") which is etymologically related either to 1) the family of Lat. *alius* "other, not-us" or 2) Gk. $\acute{\epsilon}\rho\upsilon\varsigma$ "strife," and *arī*-²/*aryā-* "righteous, loyal, devout"; with this latter go Indo-Iranian **ara-* "fitting, proper" seen in Vedic *Arā-mati*-/Avestan *Armaiti-* "Right Thought," Vedic *evāra-* "truly fitting" and Vedic *āram* "fittingly."²⁸

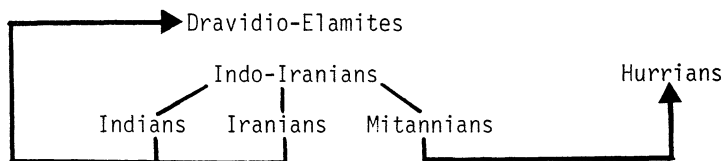
²⁶Father Dahood is growing more and more convinced that numerous "common nouns" (so-considered traditionally) in the O.T., are deities. We will summarize this material in Arbeitman 1981a. Let us here mention e.g., that a name such as *Mal'ki-Sidiq* probably means " $\bar{d}Iustitia$ (est) Rex Meus."

²⁷The further comparisons Puhvel offers, though of immense significance, are of the preservation of concepts (cf. the article by Campanile cited on p. 936) and, not necessarily of genetic etymological continuation.

²⁸On $\acute{\epsilon}\rho\upsilon\varsigma$, $\bar{d}\acute{\epsilon}\rho\upsilon\varsigma$ cf. Arbeitman Forthcoming a.

The major points to emerge from these summaries are that inherent in this Hittite "friend, fellow" word is a mighty set of social baggage, inherited from the hoariest aeon of IE antiquity: the concepts of *us* vs. *not-us* (*them*), a concept not so very different from what anthropologists never tire of pointing out as a self-designation device of "primitive" peoples, who are wont to name themselves something like "(Real) People," "People" κατ'ἐξοχήν. This root becomes in Indo-Iranian the self-designation of the host that subdues the indigenous Dravidio-Elamites.²⁹ What is "right" = what *we* do. This use of *natta āra* which Puhvel delightfully translates as "non-Hittite behavior" cannot but remind one of our civilization of the attenuated use of "Christian behavior." This phrase is used denotatively as a just about 100% equivalency representation of the *meaning* "decent behavior, what is in accordance with *our* accepted norm." We can go farther and say that such "Christian behavior" is not necessarily primarily and/or always in accordance with any prescriptions of either Jesus himself (on a primary level) or of church morality (on a secondary level). To the utterer though, besides meaning "decent behavior, etc.," this adjective is connotationally charged with the reflected refulgence that its etymology invests it with. Thus, in the meaning development of "Christian" from "He who follows the Christ" to "socially acceptable by *us*," we can trace the steps from specific epithet to common adjective. This analy-

²⁹Though not yet universally accepted, McAlpin's (1974) theory is very attractive: the native population of both Iran and India before the IE invasion were but two branches of a single folk,



The Mitanni conglomerated with the Hurrians in manner more benign than the total cultural subjugation by the Aryans in India. Hurrian remained the prime tongue; in Iran, Elamite ever held a position of honor. On the import for IE of the Mitanni presence in Canaan, see Szemerényi 1964:16.

sis does not, however, demand that IE **ara-/i-* and **aryo-* followed a path identical to that of "Christian," having been originally the "self-designation of the Indo-Iranians and perhaps even of the Indo-Europeans" (*Am. Her. Dict. Appendix s. aryo-*) and then came to mean "proper, acceptable, Us-behaviour." Puhvel's definition of the abstract *aryamān-* as "something like 'aryanhood'" (cited p.908 above) likewise slightly begs the question. Inasmuch as it has been so amply demonstrated that the root means "fitting, proper, etc." first and foremost, we can only understand the semantic course as running opposite to that of "Christian": from its base meaning, it develops by stages to "Right-Thinking-and-Acting People" to "Us" and, only in its last stages, to "Indo-Europeans" (explicitly applied to themselves by Indo-Iranians and another group to be discussed below [point 3.]); the older meaning range of "acceptable and right behavior" is extended within Anatolian only as far as the concept of a "fellow, one sharing community norms and mores" and the like; it is not the self-designation of the Anatolians.

It is with great regret that we are constrained to exclude any discussion of Laroche's (1960b) masterpiece on *√ara-* in Anatolian; we will have occasion to follow up on some of the ramifications of Laroche's piece in Arbeitman Forthcoming e. Szemerényi's view on *ārya* will be discussed in section Vc, while Palmer's view will be referred to in section IXa. We conclude this section of summaries of our predecessors' work with a few observation of our own:

1. The two functions of the god Aryaman cited by Benveniste (point 6 on p.907 above), that of establisher of friendships and overseer of marriages and that of healer are inextricably bound with the root of his name: (a) in the former function he is the "Joiner/Yoker/Fitter" (*Zusammenfüger*, cf. Luther's rendition of Matt 19:6 "Was nun Gott zusammengefügt hat...") par excellence; (b) in the latter function, again, what he does is to join and fit what is become unjoined or broken; he repairs and fixes and mends. Even to our native *Sprachgefühl*, where "repair" and "fix" are specialized for inanimate objects, these terms, as well as "sew up" and the like, can be employed (if we concede an element of jocularity) for the physician's art. Nor is it ungermane to remember that the surgeon's concern is often with *articulatory* and *arthritic* states of "disrepair." From a formal perspective, the nt. abstract *aryamān-* comes to function as the name of the deity who is the embodiment of the functions expressed by the abstract (Puhvel, p.908

above).

2. That **ar-* is so prominent in Indo-Iranian and Anatolian as a description of the group, the "fellows" of the community (to be sure, reaching a different degree in the two cases) makes it worthwhile to raise the likelihood that the Anatolian goddess *Ἀρτεμις* derives her appellation from the same root as does Indo-Iranian Aryaman. The name would be originally an adj. of appurtenance, formed with "participial" *-mis* (for this analysis cf. the detailed discussion in Arbeitman 1981b), to the stem **arta-/arta-* seen in Skt. and Old Pers. The adj./theonym could thus mean something like "She of (Cosmic) Order" or the one who keeps "society" regulated. We cannot aim for too high a degree of precision in matters of speculation either as to meaning or as to the exact determining of whether we have here an inherited Anatolian stem from IE (thus, a cognate to the Indo-Iranian) or a borrowing from Mitannian to which the Anatolians merely affixed their appurtenance-adj. forming ending.

3. The root of our concern exists in Armenian in several highly significant derivatives: *armem* "mache," *y-arem* "aggiungere, congiungere," and *ġ-ar* "schlecht" (< "nicht passend," formed with negative *ġ*); see Pokorny p.56. *y-arem*, with its concepts of "adding to, joining together," invites comparison with Gk. *ῥαφ* "Gattin" and with the marriage functions of Aryaman. It is more than reasonable not to leave the matter with these few items; we are required to consider the high probability that the *Ἀρμένιοι* themselves derive their very designation from the same source as do the "aryan" Indo-Iranians. The name is comparable readily with the Gk. participle *ἄρμενος* "angefügt, passend," and is likely to be the inherited self-designation of this IE folk. It becomes, in view of this analysis, almost unavoidable to ape Puhvel's translation of *natta āra* (p. 908 above) as "non-Hittite behaviour," and to render *ġ-ar* as "non-Armenian behaviour" (while fully admitting that both renderings, while apt in the extreme, tend to beg the question). Both terms = in essence "e-gregi-ous"; by the very nature of the *greg/societas*, all non-**ar-*/ non-Us/ e-gregi-ous behaviour is non-right and non-acceptable.

The Hittite *preservation* of our root in its prime conceptual application as "socius" is our point of departure. Not to be forgotten are Gk. *ἄρθ-μός* "bond, league, friendship" (*Hymn to Hermes* 524 ... *ἄρθμῳ καὶ φιλό-τητι*) and Hesychian *ἀρτύν·φιλλάν*, which we will have various occasions to return to. On p.902 we referred to Vilnay's quote concerning the etymology of *חבר-יון* and *الخلييل*. In the following sections we shall proceed to test this connection of the polynyms with Abraham's "friendship" with God. We will for a time play the devil's advocate, only presenting our conclusions in the several subsections of section IX.

b. Abraham and { $\frac{drug}{m\dot{l}} - \frac{r^c}{\dot{h}br} / \frac{'hb}{r\dot{h}m}$

Let us wend and wind our way into this labyrinth of order, a situation which is worthy of the oxymoron, for though we will be wandering down seemingly unconnected dark tunnels, the lights at their end will eventually all join in "l'amor che move il sole e l'altre stelle" (*Paradiso* xxxiii.145) for these lights we will find are part of the "luce eterna" (*Paradiso* xxxiii.124). We will begin with two representative passages of Scripture in Hebrew, Targum (Aramaic), and seven Slavic (!) versions. The reasons for this will soon become clear.

Gen. 11:3 reads in the Hebrew: וַיֹּאמֶר אֵישׁ אֶל-רֵעֵהוּ.

The Targumim translate: וַאֲמַר גְּבַר לַחֲבֵרָה.

The following presents the picture for the Slavic versions (we utilize whatever Bibles we own, but the resulting picture is not thereby being distorted):

Russian: И сказали друг другу

Bulgarian: И рекоха си единъ на другъ

Czech: A řekli jeden druhému

Serbian: Па рекоше међу собом

Ukrainian: І сказали вони один одному

Polish: I rzekł jeden do drugiego.

We ignore for the time being the OCS. Genesis 11:7 reads in Hebrew:

אֲשֶׁר לֹא יִשְׁמְעוּן אִישׁ שֶׁפֶת רֵעֵהוּ.

The Targumim translate: דְּלֹא יִשְׁמְעוּן אֲנוּשׁ (גְּבַר) לִישָׁן חֲבֵרָה.

Russian: Так чтобы один не понимал речи другого

Bulgarian: Тъй щото единъ други да не разбиратъ езика си

Czech: Aby jeden druhého jazyku nerozuměl

Serbian: Да не разумију један другога што говоре

Ukrainian: Щоб не розуміли вони мови один одного

Polish: Aby jeden drugiego języka nie zrozumiał.

Let us stop to sum up where we have arrived: various variations of the Slavic *drug...druga* (the expression connected above as an IE conceptual inheritance shared with Hittite *araš...aran*) are used in each of the six Slavic languages to translate Hebrew *איש...רעהו*, Aramaic *אנש (גבר) ..חברה*. The Serbian of Gen 11:3 is a different idiom "between self (sg. instr.)." The "preposition" *myed'u* is, to some extent, a midway point be-

tween IE noun **medh₂is* "mid" > German *die Mitte* and IE prep. **medh₁i* > e.g., German *mit*. If we were to attempt a suitable, but literal rendering into German, we really could not decide between "Und sprachen mit einander" and "Und sprachen in der Mitte einander" (we will shortly return to the real German version, that of Luther). At this point all we can allow ourselves is 1) that Slavic *drug* continues the IE concept of "one another" being expressed by "friend...friend" and there is only one other IE language that shares in this preservation, Hittite with its *araš...aran* and, 2) Slavic *drug...druga* (in various degrees of digression from the *Urform*) serves as the translational equivalent of the (Semitic) Jewish Aramaic, Talmudic *ʾnš...ḥbrh* and the Hebrew base form *ʾyš...r^oḥw*. The reader has the right at this point to be informed in no uncertain terms just what it is that we are leading to. It is none other than a principle; while it is certainly nice to know that Slavic has inherited the idiom "friend...friend" from IE, in common with Hittite, etymological speculations must serve something higher. That is where the test comes. Let us somewhat boldly phrase this test (a test which we conceive of as connected with the very justification for such "useless" sciences as historical linguistics and many other humanities): does the existence of the Slavic idiom and its communality with the Hittite idiom bear in any way on civilizational questions, in our case on the equivalency (and concomitant "meaning" determination) whose tracks we are on? If not, the existence of the Hittite-Slavic "iso-idiom" remains an isolated curiosity; it is but an extra "irrelevant" fact in the personal (private) history of **drug-*; it is *alien* to a real quest for knowledge. We feel it is becoming self evident what nexus we are being confronted with; but at the risk of teasing, we still need to plug in a few more data before coming to the point.

First we will return to the phrase "Abraham the friend of God" in various Slavic versions. While we intentionally ignored the OCS material when we presented the two previous Slavic version renditions above, at this point the OCS rendering plays its rightful role. We will first later understand why the OCS was irrelevant above.

	Is 41:8	II Chron 20:7	James 2:23
Russian:	друга Моего	друга Твоего	другом Божиим
Bulgarian:	на приятеля Мой	на приятеля Си	Божий приятель
Czech:	přitele Mého	milovníka Svého	přítelem Božím
Serbian:	пријатеља Мојега	пријатеља Својега	пријатељ Божиј
Ukrainian:	друга Мого	Твоєму при́ятелеві	другом Божиим
Polish:	przyjaciela Mego	przyjaciela Twego	przyjacielem Bożym
OCS:	сродѣ възлюбѣхъ		дрѹгъ бжїѣ

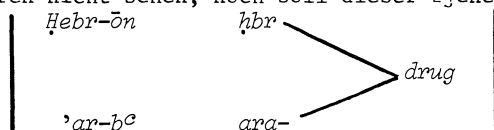
The first and most obvious point is that the word for "friend" used by the Russian and Ukrainian (Bulg., Cz., Serb., and Polish use *prijat'el*) in the Isaiah and James passages is that very word that we were able to see 5 of the 6 Slavic tongues use to translate Biblical "the one...the other" (Hebrew אֶחָד...אֶחָד, Targumic Aramaic אֶחָד...אֶחָד). Such are the vagaries of language that Ukrainian (one of the two to use *drug* here [we are intentionally not discussing OCS at this point]) was the one language not using *drug* in *either* part of the Slavic rendering of the Semitic "friend...friend" = "the one...the other." Some minor observations: 1) Cz. and Serb. use "(your) own" *svo-* rather than *tvo-* "your" in the II Chron passage. This also applies to the Bulgarian, which here uses the enclitic form of the reflexive. 2) In the II Chron passage Cz. uses a totally different word, *milovníka*, which we will have occasion to comment on in reference to the Baltic version(s). 3) All 7 of the Slavic tongues use a genitival adjective, an adjective of appurtenance, to render the Greek φίλος θεοῦ of James. Thus all say an equivalent not of "friend of God," but rather of "'theic' friend" or "divine friend" (we prefer the translation "theic" because its very quaintness forces us to confront the issue; in "'divine' friend" we are certainly using a more real word, but therein is our damnation, using this real word produces a meaning not = to what we need. The friend is not "divine," he is "of God, theic" [cf. Arbeitman 1981b for OCS "Christic"]). There still remains much more information to plug in, but wise is the author who realizes when the time has come to *explicitly* tell the reader where he is going. Though he thereby runs the risk of losing that attention to the rest of the paper, which suspense encourages, he must decide that this sacrifice has to be counterbalanced

against that other risk, that of losing the reader. So, at this point, we have decided to present a preliminary indication of our thrust:

1. Semitic *hbr* is the word employed in the Targumim to render the Heb. "[the one]...the other" phrase, in the slot where Hebrew itself employs *r^c* (though *hbr* is a perfectly good Heb. word, it simply is not the item the language chose for this phrase). It is possible that the Targumic phrase and the Syriac *gbr* ... *hbrh* are not "real" Aram., but rather calques on the Heb. "man ... his 'friend'," though the very real Aram. of Daniel 7:20 employs the f. pl. *habrāt* in the sense of "other, fellow, rival" in its description of the horn: "its [the horn's] appearance was greater than its fellows [fellow horns]." This passage is rendered by *drug* in the Serbian and Ukranian (!) and by a derivative of this word in the Bulgarian: *drugari* сѣ (*drugari* + article + enclitic "own"). The LXX has here τῶν λοιπῶν, the Vulgate *ceteris* (cf. Gk. κ.τ.λ. = Lat. *etc.*). Nevertheless, the predominant Aram. expression for *other*, especially in the "the one ... the other" phrase is *ḥ* ... *ḥ*, as in Daniel 5:6 and 7:3; both of these are rendered in the Russian by *odin* ... *drug-*. If Targum and Syriac Aramaic picked up the *ḥs/gbr* ... *hbrh* expression from Heb., it would appear that the preferred Post-Biblical (and Modern) Hebrew idiom, *h* ... *h* is an adaptation of Aram. *ḥ* ... *ḥ*. The locus classicus with this Post-Biblical Heb. expression is *Tractate Sanhedrin* 27b: "All Israel כָּל יִשְׂרָאֵל עֲרֹבִים זֶה בָּזֶה is responsible the one for the other."

2. The N.W. Sem. phrase "man ... his friend" is functionally and conceptually fully equivalent to the Slavic phrase "one/friend ... friend." The Slavic phrase is, in the very same sense, completely akin to the Anatolian *aras* ... *aran* (common IE inheritance; Tischler's, s.v., view that the Hitt. phrase is likely a calque on Akk. *tappû* ... *tappâ* is devoid of all merit). Hitt. itself knows both the Sem. usages referred to in 1. above, and, indeed, can employ them parallelistically: (Oettinger 1976:6): *nu* LUa-r[a-aš] LUa-rq-an li-e a-uš-zi ka-a-aš-sa li-e [ku-u-un] iš-dam-ma-aš-zi "Nun soll der ei[ne] den anderen nicht sehen, noch soll dieser [jenen] hören!"

A diagram will best serve to indicate the interconnection we are proposing.



The OCS Bible, as opposed to the situation of the modern Slavic versions, cannot pick up on the Hebrew idiom, for (inspite of the fact that it certainly had the *drug*... *drug-* idiom in regular usage for "the one ... the other") the translation was done through the intermediation of the LXX. Thus the OCS uses in Gen 11:3: И рече члвкъ ближнемѡ своему, and in 11:7: да не услышатъ кїѣждо гл҃аса ближнѣго (своегѡ). The word *blizniĭ* is merely a Slavic noun/adj. with the meaning "near/neighbour(ing)," and translates the LXX here. We proceed with Luther's rendering, with which we intersperse the great Yiddish version by Yehoash.

Gen 11:3: *Und sie sprachen untereinander.*
Un zey hobn gesogt eyner tsum andern.

11:7: *...daß keiner des andern Sprache verstehe!*
...Az zey zoln nit farsteyn eyner dem anderns šprakh

The predominant idiom in Latvian is *cits...cit-* (which is used in Gen 11:3 and 7); but another idiom is *viens...otro* used in Gen 13:11, where all the Slavic translations are as in Gen 11:3 and 7 though the Hebrew *Vorlage* is here אֶחָד...אֶחָד. However, we do not feel the difference in the *Vorlage* (and Targum) to be determinant here, and, by way of comparison give Luther's: "*Also schied sich ein Bruder von dem andern*" (n.b., Luther's "*andern*" corresponds to the Hebrew אֶחָד, while his "*Bruder*" corresponds to the Hebrew שָׁרָא) and Yehoash: "*Un zey hobn zikh opgešeydt eyner fun andern.*" The Latvian *viens...otro* is etymologically precisely equivalent to the Yiddish *eyn...andern* (Pokorny, pp. 286 and 37). Only in section XIII will we be in a position to discuss IE **anteros* and its role in the scheme of things herein under consideration. The Lithuanian employs in all three passages *vienas...kit-*. Though neither Fraenkel nor Pokorny offer any IE connections for this *kit-/cit-*, apparently it is only one (pseudo-)problem which keeps it from being associated with Latin *cātera* (Pokorny, p. 284,609): the fact that the latter is reconstructed with a palatal *ĥ*. We readily and with welcome find in our very verse Gen 11:3, in the Lithuanian: *plytomis vietoje akmenų* "brick for stone," and no one lets the palatal problem bring him to separate Lith. *akmuō* from Skt. *aśman-*. In respect of spatial and temporal realities, we will severely limit our citation to but two Slavic tongues. We have discussed above how in James 2:23, Abraham's sobriquet φύλος θεοῦ, is rendered "(theic) *drug*." James 2:25 reads: "Likewise too was not the whore, Rahab, justified by works, when she received the scouts [sent by Joshua] and sent them out by another way [ἐτέρῃ ὁδῷ]?" The "diglottic" Gk. N.T. (cited under Ἡ Καὶνή Διαθήκη) in *Urtext* (Koine) and in "Modern Proper" Greek (Katharevousa) renders "by another way" δι' ἄλλης ὁδοῦ. (On diglossia cf. Rendsburg, this vol.). We shall be dealing in greater detail with **alyos* and **sm-teros* and the

matter that we are about to discuss first in section XIII. Here we will give but 2 Slavic versions, selected at random. Russ.: их другим путем and Serbian: их другијем путем. The Latvian of James 2:25 reads: *pa citu ceļu* (Lith. *kitu keliu*), thus using to render "another (way)" that same word as in our "the one...the other" *cits...cit-*. James 2:23 is rendered in the Latvian as *Dieva draugs* (using the same "friend" word as some of the Slavic languages). In the Is 41:8 passage the Latvian uses a different word, *mana mīļā*, cognate with the root of the word used by the Czech of II Chron 20:7 (Fraenkel, p. 447). The significance of this word and its root in our scheme here will become apparent in section IX. In this II Chron passage, however, it is not this word, but our famous **drug* (*tava drauga*) that the Latvian uses. The "friend" words in the Lith. (*bičiūlus* in James, and *prietelius* in II Chron and Is) are not relevant here, the former having an amusing etymology (see Fraenkel), the latter being a Slavic borrowing. *Second* Chronicles itself leads us to yet another use of the words *drug* and *otra*: Ukrainian, Czech, and Serbian call *Second* (Chron) *druga*, while Russian, Polish, and Bulgarian call it *vtora*. The first is the use of "friend, other" for "second" (much as Lat. *secundus* "following, second" relates to *socius* "comrade, friend"), while *vtora* derives from an IE comparative **wi-teros* "more far/away/against" i.e., not #1, but its opposition-partner (Pokorny, p. 1176). Our two Baltic versions call II Chron *otra* (Latvian) and *antroji* (Lith.). Were we inclined to make an isogloss out of an accident, we could set up an IE bifurcation "ander" languages vs. "other" languages, and put German and Lithuanian on one side, English and Latvian on the other. We cite this example to show the traps that await any attempt at language classification.

Let us return to our earlier examples, Gen 11:3 and 7, where we stated that the OCS failed to render the Semitic idiom (our Hebrew text and the Targumic version having one and the same idiom, merely employing different lexical items), and that this failure of OCS to employ the available identical Slavic idiom was due to the "intermediation" (interference) of the LXX. Upon inspection, we do indeed find the OCS

to be a calque on the LXX in our two cases. Gen 11:3: Καὶ ἔλεπεν ἄνθρωπος τῷ πλησίον αὐτοῦ and 11:7: Ὑνα μὴ ἀκούσωσιν ἕκαστος τῇν φωνὴν τοῦ πλησίον. Here we find πλησίον to be an adverb; with the article, however it is functioning as an adjective i.e., "near" (adv.) > "the one (who is) near, neighbor." In spite of the fact that Cunliffe, s.v., lists Homeric πλησίον under 3 ending adjective, and not under nt. sg. used as adverb, the famous Homeric phrase which expresses mutual relationship between fellow soldiers e.g., B 271: ὧδε δέ τις 'Φεύπεσκε Φυδῶν εἰς πλησίον ἄλλον (edition of Van Leeuwen and Da Costa) is likewise interpretable as having adverbial πλησίον, modified by acc. sg. m. adj. ἄλλον. Notice that while the Semitic "man...his friend" is rendered in the LXX as "man (each)...his neighbor" (article + πλησίον "the [one being] close"), the Homeric phrase has πλησίον ἄλλον where the first word is but qualifying adverb, while the second is the word for "fellow, other": πλησίον ἄλλον "near" (adv. < sg. nt. adj.) followed by "other" = "his fellow (soldier/mate who is) near/at hand." The overly literal verbatim rendering of the Hebrew in Gen 11:3 by LXX ἄνθρωπος failed, by its very slavishness, to express the Semitic meaning, and Jerome did much better with his: *dixitque alter ad proximum suum*. In 11:7, however, he renders: *ut non audiat unusquisque vocem proximi sui*, both verses having מִן ("man") in the *Vorlage* (the LXX in 11:7 has ἕκαστος).

Matthew 11:16 gives us the opportunity to find in the Gothic a rendering of this "one...the other" idiom by a Germanic phrase that is *conceptually* cognate (to a reasonable extent, if not totally) with our Slavic *drug...drug-* (and hence with our Hittite *araš...aran*) idiom: "It is like unto children seated in the markets who [are] saying to their companions (ἐταίρους)...." The Gothic here reads: *...barnam sitandam in garunsim jah wopjandam anþar anþaris*. While it is not easy to determine how Ulfilas arrived at his rendering, we are extremely grateful for the preservation of an example of the Germanic idiom which bears the relation to Slavic *drug...drug-* that Latvian *viens...otra* bears to e.g., Polish *jeden...drug-*. The Russian renders this verse своим товарищам(!), which, in view of the *drug* of other Slavic versions, cannot fail to elicit a smile from us.

We mentioned above that Aramaic has 2 "friend" words, one of which it shares with Hebrew. Here is the situation:

Hebrew	Aramaic
(<i>ḥb</i>) <i>r^c</i>	<i>ḥbr</i> <i>rḥm</i>

While the link asserted previously was from Aramaic(-Hebrew) *ḥbr* (in *חבר...אנש*) through Slavic *drug...drug-* to Hittite *araš...aran*, and thereby from (Qiryat) Arba to Hebron, the further link given through Slavic *drug...drug-* to Abraham "the 'theic' Friend" (*drug* in some of the Slavic versions) would seem to manifest "une bien fâcheuse rupture de la chaîne" (Cohen 1953:88, in another context), for "Abraham the Friend" in Is and II Chron is neither *r^c* nor *ḥbr*, but *ḥb* in Hebrew and *rḥm* in Aramaic.

	Is 41:8	II Chron 20:7	James 2:23
Targum:	רחמי	רחם	
Syriac:	<i>rḥymy</i>	<i>rḥymk</i>	<i>rḥym d'lh'</i>

The chain gets reestablished by the Arabic Bible, where we have:

خليل	خليلك	خليل الله
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for Abraham, the *ḥalīl ar-rahmān* of the Quran, the *ḥalīla-llahi* of James, is the individual associated (eponymously) with the Arabic name for Hebron/Qiryat Arba; the Arabs call the city El-Khalil "The Friend." We will come to discuss the place in the entire scheme of the city's name-history which El-Khalil plays in section IXb.

While the Quran applies *rahmān* to God, the *Midrash Tillim* (Midrash on Psalms) to Ps 103:13 applies this epithet to Abraham with the note: *כרחם שבאבות* "like the most merciful/loving amongst the Patriarchs."

The verse commented on by *M.T.* speaks of the mercy/love of the Deity:

As a father has mercy on/loves (his)	כרחם אב על-בנים
children, so doth YHWH have mercy on/	רחם יהוה על-יראיו.
love them that fear him.	

The Russian here uses the Balto-Slavic root *mi-l* that we referred to above in Latvian and Czech versions of the Abrahamic titulary "Friend of God": Как отец милует сынов, так Господь милует боящихся Его. Our reasons for hyphenating the Balto-Slavic root will become clear in section IX. In verse 17, where the Hebrew has:

And YHWH's *hesed* is forever and
ever to them that fear him,

וחסד יהוה מעולם
ועד-עולם על-יראיו

the Russian uses the same root as in verse 13, to render *hesed*, that most unrenderable of all words: Милость же Господня от века и до века к боящимся Его (we shall return to *gospod* in section XIII). Let us emphasize one last time that we choose Russian (or, as occasion arises, any other single language) not from any belief that it has any linguistic "superiority," rather only from the necessity of choosing, for reasons of space, a sample language.

In the Latvian (in Is vs. II Chron and James) and in the Slavic (Czech vs. Russian in II Chron), Abraham "the Friend" was both **mil-* and **drug-*; *drug-* = *hbr* in the Slavic and Semitic (Targumic calque on Hebrew) phrase "(the one)...the other"; In Arabic Abraham is El-Khalil which is Hebron. In Targum and Syriac he is *rḥym* "the Friend" (literally "beloved," p.p.p.). In the *M.T.* he is *raḥmān* "the one of love/compassion/mercy," the role reserved in the Quranic title (and, indeed, as a rule in Judaism too, for the Deity). Here we will give our first tabular presentation of the titulary; we include and lay emphasis on the Slavic for reasons that will explain themselves in Section IX.

Abrahamic Titulary

City name:	'ar-b ^c	Ḥbr-ōn	El-Ḥalīl	X
Phrase:	araš...aran	'nš...ḥbrh		drug...drug-
The titulary:	X	[אהב רחם φίλος]	ḥalīl ar-raḥmān	√mi-l- [drug]

We are well aware that in different places we have been transcribing one and the same word in different ways, sometimes with spelling variations, sometimes with and at other times without hyphens, etc. We wish only to ask the reader to understand that different occasions demand often a particular rendition, and that this has to be done at the expense of consistency.

Let us try James 2:23 in the only remaining Semitic candidate: Ge^Cez (we have already cited it in Syriac and Arabic; Ugaritic and Akkadian are obviously not candidates, and the Hebrew N.T. we have is not too good a work in general, and merely picks up the אהב from the Is and II Chron passages). In the Ge^Cez the Abrahamic titulary is rendered *fequra 'egzi'abḥēr* "Beloved of God." Where does this yet another Semitic "friend" word (specifically--for our purposes--applied to Abraham) take us? We find the verbal base of this adj./noun (like the Aramaic word, in origin a p.p.p.) in Matthew 19:19, where Jesus, quoting Leviticus 19:18, says: *wa-'afqero biṣeka kama re'seka* "and love thy friend/comrade/companion (Lambdin 1978:394) as thy head (= self)." The Hebrew *Vorlage* is to be found in Lev 19:18 (to be sure, we are hereby dealing with a *Vorlage* several steps removed inasmuch as we are going backwards for Jesus' words in the Greek N.T., and simultaneously forward to the rendition of the the same in a translation of the N.T.; but a reasonable degree of conceptual and lexical correspondence remains in the ultimate items of the comparison). The Hebrew reads: וְאָהַבְתָּ לְרֵעֶךָ כָּמוֹךָ. The Targum (when in the Pentateuch we refer to "the Targum," Targum Onqelos is always meant, the others not being considered relevant for the argumentation, or so similar as to result in no gain in citing them, a gain which always [as with the Slavic versions too] has to be weighed against the space that would be taken up) renders: וְתַרְחֲמִיָּה לְחֻבְרָךְ כְּוְתָךְ. The more immediate *Vorlage*, the Greek of Matthew 19:19 reads: καὶ ἀγαπήσεις τὸν πλησίον σου ὡς σεαυτὸν. Here we are in a position to dispense with our "diglottic" Gk. N.T. (cited 5 pages back), and enter the real, so very real, Mod.Gk. of Pallas' Gospel translation (on the question of Mod.Gk. triglossia see Householder & Kazazis 1964). Pallas' translation here reads: κί' ἀγάπα τὸ γεύτωνά σου ὅπως τὸν ὕδλο ἐσένα. Several observations are in order: 1) the word γεύτων that Pallas employs for "(neighbor)/other" (the former is the customary rendition of the verse in English, while the latter is the quintessential meaning of Heb. רֵעִ, [Heb.-] Aram. ḥbr, Slav. drug, Hitt. [etc.] ara-, etc.) is limited in Homer to the Odyssey, where the most interesting occurrence of it is δ 16: "So

they dined under the high-roofed house, the γεῖτονες ἡδὲ Φεταῦ Μενελάου" (Φεταῦ < **swe-*, and is translatable as "fellow townsmen" [Cunliffe s.v.] or "clansmen" [Standford 1967:267]). 2) While the Koine calques the Hebrew future (the so-called future with conversive *waw*; a cogent explanation of this anomaly of the Hebrew verbal system is provided by Gordon 1957, whose view is elaborated on by Rendsburg, this vol.), used for imperative, Pallas dared to render a natural imperative in his authentic (Dhimotiki) Greek, doing this a half century before English Bibles felt safe in attempting the like. The Hebrew calque in the Koine does not demonstrate a Semitic original of the N.T., but is due to the Greek words of Jesus being quoted from the LXX. We point this out without prejudice to other arguments that have been made for such a Semitic original from which the N.T. may have been translated (e.g., Torrey 1951). 3) Pallas' word for "self" ἑαυτοῦ (< ἑαυτον, acc. m.) preserves an ancient IE function of this word, a function not utilized in Cl.Gk., for (inspite of some phonological problems) this word derives from the root **swe-*, appearing in the Argive dialect as *ἑαυτοῦ* (Pokorny, p. 882). It functions in Mod. Gk. as a reflexive for any of the three grammatical persons, just like Slavic e.g., Russian себя, and Yiddish *zikh* vs. the third person specialization of e.g., German *sich*.

Yehoash renders Lev 19:18: *nayert zolst lib hobn deyn khâver (!) azoy wi zikh aleyh*, literally "only (Weinreich 1980:24) shalt have dear (= love) thy *ḥābēr* so as self alone." 4) ἑαυτοῦ looses its -ν acc. (universal in Dhimotiki for m. acc. and n. nom./acc.), while ἐσέ-να is re-determined ("doubly accusative"). 5) The best translation of our phrase from the Odyssey is "neighbors and *lantslayt*" (cf. fn. 22 above). In Iliad H 295 Hektor says to Aias: "So you may gladden all Akhaeans aside the ships, above all both your ἑταῖς and (your) ἑταίρους." We cannot readily or easily distinguish between these two **swe-* words, **swetēs* and **swetaros* (we will deal with this root in section XII). Lattimore renders "your own kindred and company"; we much prefer "your *lantslayt* and (your) fellow-(soldiers)."

To return to the Geʿez: *ʾafaqara* ('*afqara* [causative] G[erundstamm],

Lambdin 1978:111) renders Heb. אהב, Aram. אהב "to love" in the Leviticus passage quoted by Jesus in Matthew. The p.p.p. to this root, *fequr*, "beloved" > "friend" renders the titular " (Abraham) Friend (of God)" in James 2:23. The p.p.p. of the Aram. אהב *rḥym* is the Syriac word used in the titular (and, where available, in the Targum too). Another, on the surface (at least) "active" participle is the word used in the Hebrew *Vorlage*: אהב /'ōhēb/. The chain breaks in the Greek using the verb ἀγαπῶ in the Matthew passage, but a noun from a different root, φίλος, in the James passage. The chain breaks not only between "to love" and "friend," but between the N.T. and the LXX in the titular itself, as we shall see below.

	the titular	"thou shalt love"	"thy neighbor"
Heb.:	אהב	אהב	רעך
Aram.:	אחיב	אחיב	רעך
Ge ^C ez:	<i>fequr</i>	<i>fqr</i>	<i>biṣ</i>
Greek:	φίλος	ἀγαπῶ	πλησίον
Yiddish:	<i>libhober</i>	<i>lib hobn</i>	רעך (!)
Germ. (Is):	<i>Geliebte</i>	<i>lieben</i>	<i>Nächste</i>
(II Chron):	<i>Liebhaber</i>		
(James):	<i>Freund</i>		
Russian:	друг	любить	ближний
Czech (II Chron):	<i>milovati</i>	<i>milovati</i>	<i>blížni</i>
Lat. (II Chron/James):	<i>draug</i>	<i>mīlēt</i>	<i>(tuwāku)</i>
(Is):	<i>mīl</i>		
Lith. (O.T.):	(not)		<i>(prietelī)</i>
(N.T.): relevant)		<i>mylėti</i>	<i>artimq (!)</i>

Before sketching the emerging greater picture, we will give three immediate notes: 1) the Aramaic of Lev 19:18 has (attached to the verb) a proleptic pronoun, thus it reads literally "thou shalt love him, thy *ḥbr*"; 2) the Latvian "neighbor" word is literally "near" (Fraenkel, pp. 1137, 1147), thus a semantic cognate to the word that we saw OCS using in the "(the one)...the other" phrase (above) in contradistinction to the basic Slavic *drug-*; here even our two samples use Slavic *blížni* (these two had in both our sample sentences above, Gen 11:3 and 11:7, *drug-* at least in the second position. Indeed the only language that failed to have *drug-* in at least one of the positions in at least one

of the sentences was Ukrainian; 3) the Lith. "neighbor" word(s) we will have a deal to say on somewhat later on.

What emerges from this verse is 1) the intimate association of the verbs *אהב*, *רחם* ("thou shalt love") with the nouns *חבר*, *רע* ("thy fellow/friend") on the syntactic analysis plane of Lev 19:18 and 2) a nexus between these verbs and the "Friend (of God)" Abrahamic titular in Is and II Chron, where the nouns (< participles) are *אהב*, *רחם*. This adds some further information to that which was realized in the previous diagrams (particularly see p. 921), and we now feel able to test the hypothesis: "It does not require an overly taxing suspension of disbelief to conceive the potentiality of Abraham's having just as well been sobriqueted (in James e.g.) a. *רע אלהים* * or b. *חבר דאלהא* * or c. *חבר פון גאט* * /*xáver fun got*/ if there existed respectively authentic Hebrew, Targum Aramaic, and Yiddish N.T. versions." The "if" represents a quantitatively different degree of imagination in each case. Reality of history precludes any kind of real Hebrew N.T.; with reference to a Targum, we do have a Syriac N.T., but it is dependent on the Greek, and relatively divorced from authentic Jewish tradition (this whole question has proponents on various sides, and we are here merely quickly mentioning the most generally accepted consensus, to the degree that any of these questions has a "consensus"). While the so-called Yiddish N.T. is of little conceptual or linguistic value (whatever value it may be of to zealous missionaries is not our proper concern), Yehoash' Leviticus rendition is a living representation of the realness of the word *חבר* not only in the Yiddish language, but, indeed, of the continued unbroken feel for both the concept and the particular word in the millennia of Jewish experience, irrespective of what language historical exigencies dictated that the Jews of any given period might be employing in their daily life. It is a reality that goes back to Targumic (calque) Aramaic, and beyond that to that city whose name the Jewish immigrants *translated* as *חבר-ון* (here we are anticipating section IXc [particularly γ]).

The Leviticus verse adds somewhat to our understanding not only of the relationship to the "friend" concept of the titular, but also,

on the other level, to the "(the one)...the other" phrase. This phrase is rendered in the Vulgate in the two sample sentences from Genesis that we have employed as *X...proximum/i* (we have supplied the entire quotes above). The Leviticus verse, however, appears as: *diliges amicum tuum sicut teipsum*, while in the Matthew quotation of this verse by Jesus, we have: *diliges proximum tuum...*, this inspite of the fact that the quote in the Gk. N.T. is straight out of the LXX of Leviticus, and thus employs the same Greek "other/fellow" word, the word we have discussed in Homeric usage, πλησύν.

From what we have seen so far, while Hebrew, Aramaic (Targum), and Greek use their "(the one)...the other" word (עַר, רֵבֵר, πλησύν) for "thy other" (this being the actual meaning)--the traditional "thy neighbor" of the English Bible--in the Leviticus verse, it is another word that they employ in the titulary (בֵּית, סִינִי, φίλος). Actually for the Greek, it is only in the N.T. (James) that the titulary is so rendered. In the LXX βηκ of the *Vorlage* is rendered ὃν ἡγάπησα in Is, in II Chron as τῷ ἡγαπημένῳ. It thus renders the Hebrew epithet + possessive suffix, in the first case by a relative clause, in the second by a perf. p.p., employing in both cases, however, the verb ἀγαπῶ rather than the φίλος (or a verbal form of the root φιλῶ), which is the word in James; we are hereby permitted to see in the LXX the same bond between the titulary word and the imperative of the Leviticus verse which we see in the Semitic languages, a connection lost to the N.T. author in his using φίλος. The φίλος of James, on the other hand, comes closer in a conceptual sense, to the slot of πλησύν in the Leviticus phrase in particular, and in the realm of semantic sphere on the more general level as a whole. A discussion of the canonically prescribed semantic spheres of φιλῶ and ἀγαπῶ (and ἐρῶ and στέργω) is provided in Arbeitman 1981a:73, including the degree to which these prescribed spheres are "violated" in practice, and the subsequent developments in later stages of Greek.

The titulary appears in the Vulgate uniformly with *amicus*: Is: *amici mei*, II Chron: *amici tui*, and James: *amicus Dei*, serving thus,

to a certain extent, as a conceptual bond between the *proximum* "thy other" of Matthew (and in the "[the one]...the other" phrases of our sample Genesis verses) and the *amicum* of Leviticus, for the interchangeability of the Latin (adj.-)nouns is not due to mere whim; on language specific conceptual linguistic levels "friend/fellow/other" are all but varying surface manifestations of a single underlying relation, the other member of the moiety. We have seen this described for the Hittite and Slavic idiom in Va above. In Gen 11:3 we saw the Vulgate use *alter* for the first member i.e., "the one...(the other)." In the third sample sentence from Genesis that we have cited, 13:11, Latin uses in the first slot *alterutrum*, literally "the one of (a necessary pair of) two." We can now give more precision to our previous formulation (beginning of Vb) that the Slavic *drug...druga* idiom appears in various degrees of digression from the *Urform*; actually we need to revise our view of the *Urform*, basing ourselves on the data: in the two sample verses, Gen 11:3 and 11:7, only one Slavic tongue had *drug-* in both slots, and even that tongue had this in only one of the two sentences. Thus, we need to re-conceptualize the proto-idiom as *odin/jeden...drug....*

We have seen the idiom conceptually in Slavic (together with the Hittite parallel); we see something even closer to the Latin moiety with *alter* in the Gothic phrase *anþar...anþar-* in Matthew 11:16 (cited 8 pp. back), for the Gothic is more than *conceptually* cognate to the Latin (the Hittite comes into play here too, in a manner that greatly bears on human relationships in their deepest psychological basis. This is a matter, however, that we cannot deal with adequately until section XIII). The *bližnij* of the Slavic Leviticus is not the word in the "(the one)...the other" phrase, but is that very word that we saw in the OCS rendering of this phrase, a digression from the "true" Slavic idiom which we ascribed to interference of the LXX. This led to a break in the OCS in the chain between "(the one)...the other" and the titular, for, in accordance with the Russian and the Ukrainian, OCS uses *drug* in James version of the titular (in Is it has егѡже возлюбѣхъ "whom I have loved," a relative clause which is pure calque on the LXX, cited above;

II Chron we have not been able to check in the OCS, for to our surprise, chagrin, and consternation, of all the versions that this paper required, the OCS alone proved well nigh impossible to find, beg, borrow, or steal; it was only through the great kindness of Mrs. Schatiloff, of The Synod of Bishops of the Russian Orthodox Church outside of Russia, who xeroxed several pages for us, that we were able to have any data at all. Let us here also note that Targum to Chron lacks in standard editions, and has only recently become available. Finally, of all the Bibles we did succeed in acquiring, the Lithuanian was the most difficult of obtaining, and in the case of it alone, our O.T. and N.T. are different translations, a matter that will play some role, however minor, in our data).

We stated above that we would have something to say on Lith. *artimas* in "thou shalt love thy 'neighbor,'" and, indeed, we have not accidentally reserved it until this point, not out of any wish to create "effect," but only because it came to our awareness, and thus to our conceptualization of the scheme of things in this paper, at the very end of our writing, and it is thus only right to present it in this paper at a point after we have presented all the other similar matter, the matter which led to the thesis itself. In this "thou shalt love thy 'neighbor'" verse, our Lith. O.T. employs *prieteli* in Leviticus (Slavic borrowing), while our Lith. N.T. employs a different word in Matthew (as stated, they are two different translations, but this fact does not change what the language has available in its lexical inventory). The word in Matthew is *artima*, or which Fraenkel s.v., writes:

'nahe, in der Nähe gelegen'...; vgl. arm. ...*ardar* 'gerecht', ai *ṛtā-* 'passend, gerecht', *ṛtām* 'wohlgefügte, heilige Ordnung' usw., av. *asa-* 'was recht, wahr ist', apers. *arta-* 'Gesetz, heiliges Recht', griech. *ἄρτι* 'eben, gerade', *ἄριστος* 'passend, angemessen, zweckmäßig', griech. *ἀρίστως-σύνταξις* [correct misprint in Fraenkel accordingly]; *ἀρίστην-φιλίαν καὶ σύμβασιν* Hesych....[this last = "friendship treaty" and is germane in the utmost to the conclusions presented at the end of section IX; cf. pp. 972, 978, 1001; on the Greek phrase cf. McCarthy 1979:249].

Here we deem it of use to put into perspective where our journey

has taken us, and the route by which it has taken us there: 1) we started out with the concept that mutual translatability supplies a significant means of determining a word's or a phrase's lexical sphere i.e., we are able to obtain some degree of precision of a word's or a phrase's realm by what it can translate from a source language, and, conversely, what it cannot. Working on this principle, we saw a total identity between the "the one...the other" phrases of Hebrew-Aramaic (Hebrew being the source language, the Aramaic Targum being more or less calque) and the Slavic languages: both the former and the latter employ "friend" in the second slot of this phrase, "(the one)...the other." 2) We dealt, by means of extensive summaries of works by our predecessors, with the total "semantic cognateness" of the Slavic idiom with that of Hittite. In this connection, we made the statement (section Ib) that "Slavic is here our Hittite 'connection,' for alas, there is no Hittite Targum. If there were, for sure it would yield the very results that Slavic does." 3) We saw that in the source languages, Hebrew, Aramaic, and Greek, the last word in the "thou shalt love thy neighbor..." commandment was the same word as that employed in the second slot in the "(the one)...the other" idiom. We also saw some connection between this idiom, "thy neighbor," and the Abrahamic titulary, here not in the source languages, but in e.g., Slavic as a whole, where *drug* does the least justice to the Abrahamic titulary (cf. p. 995). The predominant identity, at all events, remained between "(the one)...the other" and "thy neighbor," our Heb. *רֵעַ*, Aram. *ḥbr*, Gk. *πλησίον*. 4) We investigated Baltic merely to see the usage to which this family put its *draug*, doing this merely because of the generally accepted rather close relationship of Baltic to Slavic, knowing in advance that Baltic did not use this word in the "(the one)...the other" idiom. Thus, to some extent, we might label our investigation into the Baltic Bibles as the "idle" curiosity of the scholar. We are not surprised to find that, as a principle, such curiosity often pays off. The particular result in our case has come as a surprise, a result welcome in the extreme. We found the Lith. of Matthew rendering "thy neighbor" by that very root that we had dared

to conceive that our impossible Hittite Targum would employ to render "(the one)...the other" (⌈Heb.-⌋Aram. *ḥbr*) by: IE **ar-*!

Here there can be no quibbling concerning underlying deep structures vs. surface manifestations. The absolute identity on the semantic and lexical planes of the items in "(the one)...the other" and the "thy neighbor" word in the commandment (Leviticus and Matthew) is unexceptionable. No reasonable dubiety can exist that IE **ara-* is the equivalent of Sem. *ḥbr* in any meaningful sense of the word "equivalent."

c. Etymological and Semantic Cognates to *araš...aran*

Szemerényi (1980:223) raises a question of monumental significance. He wrote: "Even more interesting is the discovery that the fatal Aryan (not IE!) term *arya*, *ārya* is in all probability not of Indo-European origin but a Near Eastern loanword well-known from Ug. *āry* 'kinsman.'" Let us state first that it is a matter of regret to us that we have not been able to consult two previous discussions of his that Szemerényi cites in his fn. 13. We believe that Szemerényi's insight in positing a link between the Ug. word and the well-known IE word is one of the finest examples of the process of cross-cultural linguistic analysis to be found in any work employing this method. We only take exception to the *direction* of diffusion which he posits. Our objection is based on two reasons: 1) the relationship is much deeper than the level that he presents it on, and this leads to conclusions to be summarized below in our discussion of Ward's article; 2) the only compelling etymology is an IE one viz., that presented in our long summaries in section Va. Thus, the data demand that this *Kultur- und Wanderwort* diffused from the IE N.E. to the Hamito-Semitic N.E. (our hyphenated term will become clear soon).

Before proceeding to the evidence in the non-IE N.E., we need to make mention of Pope's (1977:504) proposal of a Semitic etymology for the Ug. word. Pope's etymology is ingenious, but, nevertheless, unconvincing primarily, though not exclusively, for the same reasons for

which we took exception to Szemerényi's positing of a non-IE origin.

To start, we need to make the observation that, over and beyond Szemerényi's Ug. comparison, we can now add that the IE (!) word **ara/i* "kinsman, friend, other" occurs in the Hebrew Bible itself. It is well-known that Hebrew anthroponyms refer to God as Kinsman, under a number of distinct "relative" words: e.g., עמיל (having a first element which is also present in the name of the Amorite ruler of Babylon, Hammurapi) and רעואל (having as its first element our very "[the one]...the other" word). Dahood (*Bib. Arch.* 43:216, fn. 38) interprets Eblaite *re-i-na-im* as "My friend is the Gracious One." Assuming Dahood's interpretation to be correct (and nothing in Ebla studies remains on the morrow as it was interpreted the day before), we still fail to understand his non-capitalizing of "friend" alone in the translation. Certainly this is the theic subject ("Friend/Kinsman") and *ncm* is the predicate. All these God as Kinsman names bear a conceptual kinship with the movie title "God is my Co-Pilot."

Both Hebrew examples given above (a necessarily small sample of a large genre) mean "God is (my) Kinsman." We view it as certain as any interpretation of an anthroponym (especially in a multi-cultural and and multi-lingual world of the nature of the Biblical world) can be that "God is my Kinsman" is the meaning--indeed the only suitable meaning in the terms of Hebrew name-giving--of the Biblical name אריאל (Ariel). In this name we have this *Kultur- und Wanderwort* embedded in a Semitic (Hebrew) sentence name; but the Bible also contains (Esther 9:9) this in origin IE word embedded in an Iranian name: אריקתא "Given (or placed) by Airya-" (Kent's [1953] *dāta*¹ or *dāta*² respectively). Iranian *dāta*² appears also in Biblical Hebrew (and Biblical Aramaic) late books in the word דת "law, religion"; by this means, Hebrew ends up having its "religion" word from the same root that Greek has its θεῖος from, and Latin its *fas* from.

We now come to the quote from Ward (1961:32), promised above. In quoting him, we are not interested in debating the point he makes in his text proper. Rather we are most grateful for the vistas opened by

his fn. 10, which we give in parenthesis:

Ugaritic *āry*...is parallel to "son" or "brother." The word has no Semitic etymology, and I feel this term was borrowed from Egyptian *iry* "companion." (...*iry* is also found parallel to and as a synonym for *sn*, "brother." Cf. "Then one embraced the other and one spoke to his companion [*iry*]; then Satis said to his elder brother..." [Tale of Two Brothers 14,3-5]. While *w^c...w^c*, "one...the other" and *w^c...iry* are parallel, the third parallel, "Satis...his elder brother," defines *iry* exactly as in Ugaritic *ah/bn*...*āry*).

Although the emerging picture by now just about presents itself without our help, we are not permitted to shirk out duty to state it explicitly. 1) We noted at the beginning of this section the Biblical variation "man...his friend" ~ "man...his brother"; 2) we observed that either is rendered in Slavic by a variation of *drug...drug-*, and we were later able to reconceptualize the proto-Slavic idiom as more likely *odin/jeden*...*drug-*. This form is the exact equivalent of the Eg. *w^c...iry* in semantic cognateness on the phrase (idiom) level, while the Eg. *w^c...w^c* bears a like relationship to the Ukrainian variation of the Slavic theme: *ōdin...ōdno-*. We had previously shown that the proto-Slavic idiom is isoglottic in IE only with the Hittite idiom *araš...aran*. This has been more than proven by the work of our great predecessors, and our reconceptualizing of the exact form to be posited for proto-Slavic (and thereby making *drug...drug-* a variation rather than the basic form) in no way vitiates the comparison, so laboriously elaborated by others; it only adds some (minor, at that) refinement. 3) The evidence added most recently leads us to conclude that a cognateness between the Hittite *araš...aran* and the Egypto-Semitic (e.g., Egyptian *iry...iry*) exists not on the mere semantic plane, but on a *genetic* (etymological [phonological etc.]) plane. We do not mean by this to propose a common IE-Hamito-Semitic inheritance, rather a diffusion (IE > Eg. for the idiom as a whole, and IE > Ug. and Heb. for the item together with its conceptual baggage). 4) We may conclude this summary with the following observations: a. the idiom "the one...the other" crops up in Hittite and Egyptian with the **ara/i* (*arya-*) "kinsman, friend, other" lexical

item; b. while in Ug. *āry* is parallel to *ah*, *r^c* (*hbr*) is parallel to *ʾh* in Hebrew (and Aramaic Targum), and *sn* has a similar parallelism to *īry* in Egyptian; thus all three language have a cognateness on the idiom level, while on the level of etymological cognateness, Ug. shares **ʾah* with Hebrew, but *(*ʾ*)*ary*- with Egyptian; c. we have been informed on good authority that C.H. Gordon has orally (classroom) proposed some kind of connection (*Kultur- und Wanderwort?*) between Hurrian *šenni* "brother" and Heb. *יְנִי* (< **ʾn*-) "second, other." The further connection of these two with Eg. *sn* "brother, other" (as demonstrated by the parallelisms adduced by Ward) strongly--almost ineluctably--suggests itself; d. the fact that, of all the languages considered, there is a special connection on the *etymological* level of cognateness in the "the one... the other" idiom between such genetically unrelated languages as Hittite and Egyptian, is no more a cause for marvel than that these two tongues have a common word for "house" **pr* (which also appears in a Luwian toponym in Greece, Πάρισσος, as has been so convincingly demonstrated by Palmer [1965:343 f.]); but such "cognateness" can only be understood in terms of international *Kultur- und Wanderwörter*, not by a seeking to reconstruct a proto-form from which the languages involved would have developed, each his own form through the processes of *Lautgesetz* (whether conceived of as inexorable or as flexible). It is in just such terms that Gordon (1979:300) conceives the cognateness of the Egyptian and Sumerian words for "leader/king," respectively *nsw* /*insi*/ (on the phonetics of which we will comment in section X) and *ensi*. Both diffused from West Semitic, the language (group) where alone the word is etymologizable. The last statement is applicable in the same degree to the relationship between Hebrew *יְנִי* and Hurrian *šenni*: the item is only etymologizable in Hebrew, and thereby there remains no room for any doubt as to the direction of the diffusion; e. in *(*ʾ*)*ary*- and **šēnī*- we have international *Wanderwörter* for "one's fellow, brother, other," the former of IE provenance, the latter of Egypto-Semitic provenance. These linguistic facts fit together with what history tells us of the Amarna age, which has been so aptly dubbed "the first international

age" (on this period cf. Scharff & Moortgat [1950:140-51]; on p. 150 the authors offer an alluring discussion of a subject we cannot afford to get embroiled in here: an [ancient] "volksetymologische Gleichsetzung Chábiri = 'Ibrîm = Hebräer"; we reproduce their peculiar rendering of the *ayîn*); f. the respective "friend, other" roots of Hittite (ignoring here the additional "wanderings" of the item) and of Semitic (specifically Jewish Semitic: Hebrew/Aramaic), *ara-* and *ḥbr*, derive from IE and Semitic verbal concepts "to join, fit, suit, bind"; these two lexical items are the bases of (two of) the alternate polinymy, (Qiryat) Arba and Hebron. The discussion of the alternate polinymy, Mamre and El-Khalil will be undertaken in section IX; we need first to explain those parts of Ar-ba and Hebr-on which we have neglected so far: the suffixes *-b^c* and *-ōn* (once again we plead for understanding the necessity of seemingly arbitrary different means we employ in transcribing various items, even when they are being transcribed from a single source writing system).

VI. THE SUFFIX ָן

Spatial and temporal realities combine to compel us to make this and the following section brief in the extreme, one consequence of which is that the author, in such a case, often ends up presenting the conclusions which he has reached after years of research, but is not able to adequately offer before the reader the evidence which he has based these conclusions on, and the solutions thus offered appear to be delivered *ex cathedra*; the author himself seems to be pontificating and asking his colleagues to accept the solutions on faith. Yet we must bow to reality and all we can do is to ask that our colleagues accept that both the individual solutions and the entire chain, presented in these two sections, are based on a great deal of data and much research, and have been arrived at not frivolously, as the terseness of exposition might lead the reader to conclude. 1) We are able to determine four distinct functions of the Hebrew suffix *-ōn*: a. abstract e.g. Mod.Heb. שגעון "craziness";

b. dual e.g., the polynym שמריק. The fact of the suffix being a dual marker here is assured by two factors: the Aramaic equivalent שרמיק /šomrayīn/, an *unequivocal* dual, and a mechanism of the Hebrew gentilic system which we will discuss in point 6 below. This case is also discussed in Arbeitman 1981a, section 1c; c. "vacuous" (the matter entails too much detail to be even broached here, and the reader is referred to Arbeitman Forthcoming b [preliminarily Arbeitman 1976 may serve to indicate what we mean by this concept]); d. "the one of/he of"; this is the function that we are here concerned with. It serves to express a quality that the bearer is endowed with (as a fixed attribute). As an example we offer the Ug. titulary of El, *lṭpn il d pīd*; what we have here after the first word, is analyzable as "El, the one of (⁽⁻⁾/δū/) mercy" (cf. Tuttle 1978:262). We view the entire titulary as consisting of a centrally placed noun (PN), surrounded by *functionally* and *semantically* parallel epithets, each of which is constructed differently from a *formal* perspective. The epithet after El is constructed with /δū/ (a quasi-prefix functionally), while the epithet which precedes is constructed with the suffix /-ān/ attached to the root which we see in Arabic لطيف "kind, *gütig*." The whole titulary is to be rendered "The One of Kindness, El, the One of Mercy." This double epithet titulary for the Deity is most comparable with the Hebrew 'Eḏ ḥannūn we-reḥūm (Albright 1969: 234) "God, Merciful and Gracious" (Albright's ordering in the translation must be due to a *lapsus*). It is also unavoidable to think of the Quranic refrain, with which the suras open:

In the name of Allah, the Gracious, the Merciful. بسم الله الرحمن الرحيم
Like the Ug., the Arab. employs *formal* variation: the first epithet is constructed by means of our -ān/-ōn suffix, while the second (= the Aramaic epithet in the Abrahamic titulary [Targum כמים, Syriac *rḥym*]) is formed by an internal morpheme, using the *Fa^cīl* pattern. It employs the same root for both epithets, while the Hebrew titulary for the Deity has recourse to only one morpheme, the adjectival *Pa^ccūl*, but attains its stylistic variation by employing two different roots. The Ug. has redundant variation in its employing different roots *and* different morph-

emes. Here we recover a Proto-West Semitic (in the sense of Rössler's [this vol.] "Young Semitic") titulary for the Deity: "El, the Gracious/Kindly, the Merciful." The titulary in its entirety is inherited from the ancient stock of the proto-language; there is an unbroken continuity of the concepts, and this is to be assigned far greater significance than the guise (language specific lexical and/or morpheme items) that each daughter language continues the conceptual idiom/titulary in. For the methodology of recovering proto-language features in this manner, see Campanile 1979 and also Benveniste 1973:254. This, however, is not our topic here; what we do wish to exemplify by this set of titularies is the concept of rough morphemic *meaning* equivalence, both as a working principle and, in our specific concern, specifically of "prefix" /δū/, suffix -ān, and internal morpheme (cf. the example of a similar analysis in Arbeitman 1980b). 2) The same equivalence is to be seen in two N.W.Sem. mythological titularies (1400 years apart): Ug. *zbl yrḫ dmgdl* "Prince Moon, He of the Tower," a titulary of the Lord of the Underworld (3 Aqht 'rev' 30-31) and the titulary of that particular Mary of the Gospels, known as "She of the Tower," Μαριαμ Μαγδαλ-ην-η (for the seeming problem in the phonetics of the suffix here, see Arbeitman Forthcoming d). It is highly likely that she bears an epithet with ancient W.Sem. chthonic associations rather than some sort of cognomen/epithet which designates her city of origin (Magdal in the traditional theory). In similar wise, if not with so "radical" a new proposal, the traditional theory of Judas Iscariot's surname having reference to his city of origin has long been abandoned, so much so that it is not even mentioned in a recent definitive study (Ehrman 1978:572). That the chthonic epithet "The One of the Tower," applied to another personage, should survive into N.T. times is no more cause for surprise than that the other part of Prince Moon's titulary, *zbl* (a specifically theic word) should pop up in the N.T. in Βεελζεβουλ in spite of the fact that in the documents between Ug. and the N.T. (the Hebrew Bible) the name is intentionally disfigured to בעל זבוב "Prince/Lord Fly" (our traditional "Lord of Flies," for which there lacks any linguistic basis). The disfigured

form, Βεελζεβοϋβ, also occurs elsewhere in the N.T. 3) In another Ug. epic there is a deity *ḫmn*, whose name Gaster (1961:155) translates as "Lord of Hell," comparing Arabic خور /*xaur*/ (add Heb. נר /*ḥōr*/) "pit," thus implying a functional analysis for the suffix identical to ours. By using no diacritics in his Ug. Horon or his Arabic *ḥaur*, Gaster relieves himself of having to face an obvious phonological problem. While the reader of this paper will realize that we do not feel overly rigid obedience to phonetic laws must be the sole criterion on which the admissibility of an etymology is judged, neither do we deem it allowable to take no cognizance of problems that really exist. Gaster's proposal is very attractive, but the cause or some justification for the lack of phonetic correspondence between the Ug. and the Arab. voiceless fricatives must be offered along with such an etymology. Gaster also proposed seeing this deity in the Biblical toponym בית חרניק, a comparison also offered by Gordon (1965, s.v.). The Heb. grapheme *n* can represent spoken /*x*/ or /*ḥ*/. Another use that the Heb. Bible makes of this "pit" word is discussed in Arbeitman 1980a (based on Pope 1977). Irrespective of what we do with the phonetic problem (and, consequently, the etymology), we accept Gaster's translation "The One of the Underworld" (our paraphrase). We take this opportunity to suggest that this Semitic underworld deity survives as a borrowing in Greek mythology, where he is assigned a rather specific role: Χάρων, ferryman of the Styx, who transports the newly arrived over to the Pit (!). 4) Palmer (referred to above) brilliantly elucidated the toponym, localized in Greece, but of Luwian origin, Πάρνασσος as "The One (= Mountain) of the Temple," a name whose appropriateness cannot fail to strike one who visits this most numinous of all earthly sites. Guerney (1961:123) discussed the Anatolian toponyms *Dattassa* and *Tarḫundassa*, analyzing them as having the same suffix as in Palmer's Πάρνασσος, with the meanings of "He (= City) of Datta" and "He of Tarhund." There subsists little doubt that the Biblical toponym חרמון means exactly what Πάρνασσος means, "Place of the Temple." It is formed with the W.Sem. **-ān* suffix, our suffix which has, as one of its functions, that which is expressed by the Luwian *-assa* suffix. 5) These functions are borne by Luw. *-assa*, W.Sem. /*ḥā*/ and **-ān*,

Akkadian *šū*, perhaps Amorite *šā* (with which the element in two Heb. PN's, /šā/, [cited by Rendsburg, this vol., p. 667] has been compared; the Amorite and W.Sem. data is complex; it is conveniently summarized in Huffmon 1965:264-65). Other W.Sem. functional equivalents will be cited by us in the following section, where they will tie in suitably. A Luw. functional equivalent, from a formal perspective constructed with totally other means, is discussed in Arbeitman 1981b; it is cited here, not for the purpose of entering into details of the construction, but only for the comparative significance that the meaning of the title has for our understanding of the communality of religious and name-giving concepts that prevailed in the the N.E. Oecumenon (our three examples are from the Amarna age to c.500 years later; all three names are of Luwian or Indo-Aryan background, and serve to display the centrality of the worship of ^dSo1 amongst the Indo-Europeans of the A.N.E. i.e., the groups of Indo-Europeans who also shared the *ara-/ari-/arya-* self-designation). The example of Arbeitman 1981b is the title of Azatiwatas, *tiwatamis zitis* "Devoté of the Sun"; the other Luwian (!) (at least in peoplehood background of the bearer of the name) is that of שמשון, Sam(p)son the "Danite," "He of the Sun" (detailed discussion in Arbeitman & Rendsburg 1980; section IV for Rendsburg's remarks, section V [particularly last page of article] for Arbeitman's remarks). The Indo-Aryan example is the name of the Mitannian (Amarna Age) prince of Hebron (!), /suwar-data/ "Sun-Given, 'ἡλιό-δοτος"; cf. Vedic /súwar/, Skt. *sūrya-*. A case for a wide-spread use of this Mitanni word as a theophoric element in Biblical onomastics is established in Arbeitman 1981a, section Ie. We would like to sum up the utter silliness of underappreciating (let alone denying) the importance of the symbioses of peoples in the ancient Biblical Oecumenon (and, for that matter, in the A.N.E. as a whole) by a paraphrase that we hope will hope will make us liable neither to a charge of blasphemy nor one of frivolity, a paraphrase of the famous "Santa Claus editorial": Yes, Virginia, Hittite, and Hurrian, and "Sanskrit" were spoken in Canaan. 6) Returning to 1. above, the Hebrew gentilic formation system demands differing analyses of the seemingly same suffix in שמרון

and חִבְרוֹן. That it is dual in the former is displayed by the fact that duals (whether formed with this dialectal, variant suffix, or with the standard Hebrew dual suffix, *-ayim*) subtract their dual ending before adding the gentilic suffix. This can best be demonstrated by a proportion: חִבְרוֹן:שָׁמְרוֹן = מְצָרִים:מְצָרָיִם. Contrary to this, a Hebronite is חִבְרוֹנִי. On the suffix in our English translations "Samaritan" and "Hebronite," see the discussion in Arbeitman 1980b, fn. 3. 7) Our *-ān/-ōn* suffix, the "the one of/he of" suffix, occurs in W.Sem. in two allomorphophonic varieties: *-ān* and *-ōn*. Of the first variety we have already given examples, and these could be multiplied ad infinitum; the second variety is not generally acknowledged, at least in explicit statement, for what it is viz., the same suffix in an alternate shape. Therefore we will give four examples of it here, examples which will leave no doubt that it is what we claim it to be: a. the Hebrew polinym יָרֵחוֹ (< *yariḥā* [attested in Amorite]) means "The One (= City) of the Moon" (we will discuss this name in section XI). b. one of the names of Moses' father-in-law is יָתֵרוֹ (< **watarā* vel sim.); its meaning is "He (= Devoté) of the Exceeding (God)." Above we discussed the name יְעֹזָבָד "God is my Kinsman." This is Jethro's alternate "name." The seemingly insurmountable problem presented by Moses' father-in-law having two different names is that type of problem that the scholars of the last century invented the documentary hypothesis as a cure-all for. Their answer was very simple: two different stories are conflated by an ancient editor too stupid to see the discrepancy in so basic a matter as that of a man's name. Our analysis of these two names, Reuel "God is my Kinsman" and Jethro "Devoté of the Exceeding (God)" offers as a totally unexpected and gratuitous boon that it now allows a more reasonable explanation of Reuel/Jethro's "name(s)": these *sogenannt* "names" of this Midianite *priest* are not "names" in our sense of this word; rather they are exchangeable confessions of faith (or alternate forms of a single titular function), relating to this man whose "profession" was that of worshipper. c. the alternate forms of the suffix appear in a single lexeme in Aramaic *gravtān* ~ *gravtā* "He of the **gravā*" (~ *ba^cal gever*). The *-t-* "infix" is to be explained by the same rule as Syr. *qrbtn'* (p.949). Contra Jastrow, s.v., a

close reading of the structure of the passage demands parsing *gravtā* as functionally fully equivalent to the other two variant "adjectives," each of the three meaning "he of/one endowed with/one having X." On the functional equivalence of a phrase constructed with a *ba^cal* "prefix" to an adj. formed with our *-ān* suffix, we will have something to say in the next section. The details of the structural analysis of this passage are presented in Arbeitman 1980a:84-85. d. in Arabic sources the very name Hebron is found in our two variant forms: *Ḥabrān* ~ *Ḥabrā* (cf. fn. 15 above). 8) The general function we are suggesting for this suffix domain is that of "one of/one associated with," in the exact sense of Slavic > Yiddish > ^{Mod. Hebrew} ^{Mod. English} } *-nik*: *sputnik* "one of the same path," *nuzhnik* "place of necessity, privy," *chainerik* "the one of/that which is for tea/teapot," *refusnik* "one who refuses," *kibbutznik* "he of the kibbutz/kibbutz member," *peacenik*, *beatnik*; thus, "he of X, he who X's" (see Weinreich 1980:531 et passim).

VII. THE SUFFIX *בֶּעַ*- < HITTITE *-APA* /*-AP'A*/

From a morphological perspective, it can confidently be asserted that this suffix is a specialized employment of the Anatolian demonstrative *apas* (< IE **obhos*, cf. Bader, this vol., fn. 44, and Szemerényi 1956:69). Our Anatolian suffix is thus of identical typological origin with the W.Sem. suffix *-ān/-ōn* (unfortunately we cannot present the facts concerning the origin of the latter here; its pronominal origin is elucidated in Arbeitman Forthcoming b). This Anatolian suffix, which we are here positing, fits well, as to its function, into an established Anatolian general pattern, and a specific parallel is available from Anatolian proper onomastics (vs. Canaanite Anatolian onomastics). One of the most cogent heuristic means of recovering the function of a morpheme is the determining of its area of "overlay" with another morpheme, whose function is well-established and unequivocal. Such "overlay" is present in the onomastic parallel we refer to; indeed the name in question is extant in three forms, constructed with three alternate suffixes, so that no doubt can subsist as to the function of the *-apa* suffix

in that particular word, which is the subject of Arbeitman & Billigmeier Forthcoming. It will suffice here to briefly sketch that general Anatolian (Hittite) pattern referred to above. The typological pattern of such suffixes and their function has already been detailed in the preceeding section, and here we will add but little to it.

Hittite has a construction utilizing the bare genitive (Friedrich 1960:123, §212) e.g., *waštulaš* "(the one) of the sin" = "the sinner." This construction exists alongside and in competition with a fuller mode of expression, *waštulaš* UKÜ-*aš* "the man of the sin," with no difference in meaning. Intermediate between these two attested competing means--and very close to both of them--we can easily postulate the existence of a variant on the fuller mode of expression, but one which instead of employing a noun ("man"), uses a demonstrative ("the one/he"); we can conceive of this intermediate mode existing first as a genitival phrase, exactly like *waštulaš* UKÜ-*aš*, then in an "attenuated" form, where the demonstrative has become a suffix, **waštulapaš* "the one of the sin" = "the sinner." N.B. The only difference (in our translation) here from the mode presented at the beginning of this paragraph is to be found in the non-appearance of the parentheses around "the one."

The last stage which we postulated is typologically identical to much of what we detailed in the preceeding section, with examples from various languages. To those examples we may here add some expressions from Akkadian e.g., *ša rešši* "the one of the head" = "palace official," *ša lišānim* "the one of the tongue" = "secret agent," or *šūt pî* "the ones of the mouth" = "commentary," and, of course, the common name type: *Šu-Sîn* "Devoté of dLuna" or *Šu-Aššur* "Devoté of dAššur" (cf. von Soden 1952:47, §46). The Ug. mode of expression with "prefix" that we discussed in the preceeding section has its exact pendant in Hebrew, with the same etymological item. Modern scholarship has detected it in the epithet by which the Deity is referred to in Judges 5:5 and Ps 68:9, *הוה יי* "The One of Sinai" (see the references under *הוה*, section 8, in Koehler-Baumgartner, and Mazar 1971:70). Alas, the RSV still persists in rendering "Yon Sinai"!

And I was discerning, and behold,
a buck coming from the west.... And
he came to the two-horned ram....

וואני הייתי מבין והנה צפיר-העזים
בא מן-המערב.... ויבא עד-האיל
בעל הקרנים....
(ba'al haqqrānayim)

Had correspondences of this kind [the animals of the vision symbolizing specific empires and dynasts on a basis of the association of the particular animal with the indigenous legends and toponyms of the empires/dynasties in question] been chosen, rather the two-horned ram [and not the buck of the vision, as proposed by others] would have typified Alexander, who, acc. to Clem. Alex., *Cohort. ad gentes* iv..., had himself represented with two horns to prove himself the son of the ram-headed Libyan Ammon, a trait which appears in the Seleucid coinage and which gave rise to the Arabic epithet for Alexander *Du l-karnain* 'he-of-the-two-horns' (e.g., Koran 18.82) *the exact equivalent* [italics ours], by the way, of כַּרְנַיִם וְעַל קַרְנֵי [ba^{al} qarnayim], the epithet for the Pers. ram in v[erses]⁷.

The Quranic verse, referred to by Montgomery, reads:

And they will ask thee concerning
 δū l-qarnain. Say "I shall relate to
 you some of his renown (δikr)."

ويسئلونك عن ذي القرنين
 قل سأتلوا عليكم منه ذكرا .

Inasmuch as the subsequent verses narrate this individual's prowess and manly acts of heroism, we cannot exclude the possibility of the presence of intentional polysemy in the use of the root *škr*, based on the consonantal homonymy of *škr* "renown, reputation," from a root "to remember," and *škr* which means both "male" and "penis" (Wehr s.v.), just like the meanings we have in Aram. *škr* (e.g., in the variant for the phrase "the one [גבר]...the other [חבר]" and that meaning seen in גבר בלע, dis-

cussed in the preceeding section, where our interest in it was only the morpheme equivalence of the three variants that the expression appears in. The other step from "male" to "strength, power" is demonstrated by another derivative of this same *gbr*, Hebrew גבר "warrior, hero" which is parallel to איש מלחמה in Ez 39:20. The functional total equivalence between Heb. *ba'al qṛānayim* and Arabic *ḡū qarmain*, both meaning "He of Power/Might" (lit. "horns"), confirms our previous equivalence of the three Aramaic alternate forms, constructed with *ba'al* ~ *-ān* ~ *-ā*. The Arabic and Hebrew "horn" phrases mean the same thing, share a common noun, while differing from a formal perspective in the "prefix"; to some extent, at least, the Hebrew "horn" phrase and the *ba'al geve* phrase also mean the same thing, in that they both refer to a certain (different in each case) type of manly endowment, both having a prime meaning of "one endowed with/having maleness," coming in the former to have the specific meaning of "powerful," in the latter, to the specific meaning of a certain over-endowment of maleness (in the second sense of Arabic *ṣakar*). The meaning "masculine power/might" which emerges in *qarmain* (from the association with the characteristic par excellence of male animals) has, as a consequence, an unexpected light to shed on the traditional attempts at understanding Spanish, etc., *cornudo* "cuckold," usually explained, in one way or another, as "provided with horns/given the horns." If "horns" are the very symbol of one's masculine prowess, of masculinity, it is then totally reasonable to consider that the Sp., etc. word is some kind of (euphemistic?) deformation of "dehorned" : **decornudo*. Let us bear in mind that not only is the Sp., etc. "horn" word of common Nostratic origin with our Heb./Arab. word, but in addition, the animal with the horns of masculinity par excellence in Spain is of common origin with Heb./Arab., etc. *ṣaur*. Perhaps in this case, we have not merely two international *Kultur- und Wanderwörter*, but together with the lexical items, which bear a strong semantic relation one to the other ("horn" and "bull"), we have a *Wanderbegriff*. 2) We have chosen our second example of Arabic ذو for the same reason viz., that it translates a Hebrew phrase. Rabin (1957:119), in a section

dealing with the possible influences on nascent Islam from remnants of the Qumran sect, notes:

The generic Muslim name for Messianic events is *malḥama*, pl. *malāḥim*. This is obviously the Hebrew word *milḥamah*, 'war', but in Rabbinic parlance these events are called *ḥevlē ha-Mashiah*, 'birth pangs of the Messiah', and the only place, to my knowledge, where *milḥamah* occurs in this sense is in a report about the finding of an old Messianic scroll, B[ab.] T[al.] San. 97b. In DSW [*The War of the Sons of Light and the Sons of Darkness*] the word occurs in the Messianic sense in the title, and again in 'the epochs of the wars of Thine hands', xi.8. While the Messianic wars in Rabbinic eschatology are fought out by the heathen nations, the war of DSW is fought by Israel, begins in the 'desert of Jerusalem', and ends forty years later with the conquest of Ham and Japheth. The Muslim *malḥama* begins at Medina and ends with the destruction of 'Rome' (Constantinople), according to one version by 70,000 'sons of Isaac'. Probably the final event of the sectarian [Qumranic] war also was the conquest of Rome.

It is interesting to note, in this connection, that Saadiah [the great 10th century C.E. translator of the Bible into Arabic, and author of an Arabic commentary on the Bible] renders ish milḥamah [the phrase we referred to above as being parallel to גִּיּוּר in Ez 39:20] in Exod. xv.3 as dhū'l-malāḥim [italics in this paragraph ours, with the consequence that we put those Heb. and Arab. words, italicized by Rabin, in roman], apparently following the eschatological interpretation of the song hinted at in B.T. San. 91b.

As stated in reference to the last example too, our concern is not with eschatological implications such as emerge from Saadiah's rendering. Another fact, however, emerges from the Goan's translation, a fact that is relevant to our minor (relatively speaking) goals. The translatability of Heb. אִישׁ by Arab. ذُو gives us some useful information about the pronoun-like character of the former in our "the one (אִישׁ)...the other" phrase. If this conceptualization of אִישׁ (and *drug*, etc.) coming eventually to function as (quasi-)pronominal elements seems to bring our hypothesis to a point of "overkill," we shall see in section XIII **drug* itself (and semantically similar Heb. and Gk. words) that have become attenuated a degree further yet, to prepositions.

Let us examine here the Biblical verse that Saadiah translated in the manner described by Rabin, and which served our purposes of mutual translatability of pronominal elements. We will follow our standard method of comparing the Heb. text with the Targumim, and with the LXX

and the Vulgate. Ex 15:3:

YHWH is a man-of-war; YHWH is his name. יהוה איש מלחמה יהוה שמו.

Targum Onqelos renders:

The Lord is a man-of-battle-victories; יי מרי נצחן-קרביא יי שמה.
The Lord is his name.

The word for "man" that Onqelos employs is somewhere between Heb. מִנְיָן
"man" and *ba'al* "master/one of/one endowed with" in its semantic range.

Targum Pseudo-Yonatan renders:

The Lord is a strong-man יי גוברא עביד קרבינן בכל דר ודר...
performing our battles in every מנדע גבורתיה לעמיה בית ישראל יי שמיה
generation teaching his manliness/ כשמיה כן גבורתיה.
prowess/heroism to his folk, the
House of Israel; the Lord is his
name. As his name, so his manliness/prowess/heroism.

Targum Yerushalmi, combining elements of Onqelos and Pseudo-Yonatan,
renders:

The Lord, in the preciousness of יי ביקר שכינתיה הוא דעביד לכוון נצחני
his Divine Presence, he is the קרביכוון בכל דר ודר מודע גבורתיה לעמא
one who performs for you your בית ישראל יי שמו [sic] כי כשמיה כן
battle-victories in every genera- גבורתיה.
tion teaching his manliness/prowess/
heroism to the folk, the House of
Israel; the Lord is his name, for
as his name, so his manliness/prowess/heroism.

The rendering of the Samaritan Targum, while following some of the same
interpretations, is far less convoluted:

YHWH is a strong-man/hero in battle; יהוה גבור בקרבה יהוה שמה.
YHWH is his name.

While closer to the Heb. and Onqelos than are the other two, in render-
ing the "a-man-of-war" phrase, the ST still differs from the former two
in not employing a construct phrase, with "semi-pronominal" element.
Instead it follows the "man/hero" word by an adverbial phrase "in bat-
tle." Of the two Targumim to use the *gbr* root, ST apparently is using
Hebrew *gibbôr* "hero." But in T Ps.Y we see the two aspects of the se-
mantic range of Aramaic *gbr* "male/man" together. On the prime level, it
represents the virility and prowess/heroism of the Deity (an interpre-
tation reinforced by the occurrence of the word גבורה "manliness/hero-
ism," shortly after). Yet on another level, it is the common Aramaic

word for "man/human being/person," and thus serves as the equivalency-translation backwards in time to Heb. אִישׁ (of the *Vorlage*), and forwards in time to Arab. ذُو (of Saadiah's translation) which is an unequivocal pronoun/demonstrative (a specimen of the typological phrase which has been the subject of this and the preceeding section, although we may seem to have wandered off the topic in our efforts to show the pattern). Aram. גְּבוּר/גִּבּוּר, as previously discussed, shows this pronoun-like function in its use in our "the one (גְּבוּר [where it is a variant to אֲנִישׁ/אִישׁ])...the other (חֲבֵירָה)" phrase.

The LXX, embarrassed by the concept of the Lord as a "man-of-war" (not to speak of the way the Targumim would present Him, as "the one who performs the battle-victories for his folk"), glosses over the epithet, thus distorting and disfiguring what is plain and simple in the Hebrew, by rendering:

The Lord [who is] shattering/ Κύριος συντριβων πολέμους· Κύριος
smashing wars; the Lord is his name. ὄνομα αὐτοῦ.

The Vulgate finds the less radical means of surgery to skirt the unambiguous meaning of the *Vorlage* epithet:

The Lord is, as it were, a man Dominus quasi vir pugnator; omni-
(who is) a fighter; Omnipotent potens nomen eius.
his name.

If we stretch our imaginations, we can read the Hebrew as a metaphor, but even such a determination is left up to the reader's own sensibilities. The Vulgate is afraid to allow us our sensibilities, and gives a simile, which is, thus, a step further removed from the meaning of the text. It is the parade example of the Italian dictum "traduttore--traditore."

We will close our typological survey with two examples of the Aramaic construction which is so à propos (Jastrow, p.277): 1) דְּבִיתָהּ ד- literally, "his she-of-house of (X)" = "his wife of (X)" = in normal English "X's wife" (for the redundancy mechanism of the Aramaic genitive construction, cf. our remarks, p. 899 above, with the reference to Golamb). 2) דְּבִיתָכִי "thy she-of-house" = "thy wife."

The Semitic examples have been adduced here merely as typologically

syntactic parallels. These are useful in that sense, but it is the existence of the two polar modes of expression for this concept in Hittite itself, *waštulaš* and *waštulaš* UKÜ-*aš*, that, in the final analysis, makes our postulated intermediate "equator" **waštulapaš* readily assumable and highly plausible.

The phonographemic problem posed by the representation of this Hittite suffix as נַע in Hebrew, we will discuss in great detail in section X. Let it suffice here to say that the *y* in this suffix and the one is another toponym in Canaan, of Anatolian origin (section XI), and the *κ*'s in two other words of Anatolian origin (section IX for the toponym, section X for the theophoric anthroponym) cannot be *matres lectionis*. Hebrew (certainly in the period that these four names were assimilated into the language) doesn't use *κ*'s and/or *y*'s in this way, a way that they *are* used by e.g., Mandaic or Punic. Punic can spell its cognate to Heb. קבר "grave" as קעבער /qeber/, which looks so hilariously similar to the officially prescribed Soviet spelling of Yiddish. In standard Yiddish, *y* is indeed used to represent /ε/, but only in words that are *not* of Heb. or Aram. origin. The Soviet system is a deliberate attempt to break the multi-faceted connection between the spoken Jewish language and the civilization of The People of the Book.

In Samaritan, one often wonders whether, in a given case, the apparent indiscriminate use of the laryngeals is a case of laryngeal "confusion" or whether the graphemes in question are merely being employed as *matres*. The former would seem to be the case in e.g., עקל for חקל "field," while the latter would appear to be the only way of understanding a case like קעם for קם /qām/ "arose." A thorough investigation remains to be undertaken before a definitive statement can be made.

We are left here with the problem of why the Hebrew scribes rendered Hittite **ar(a)pa* "The one (= City) of the Friend/Fellow/(Other)" as ארנַע, which, for all the world, looks to us and looked to many an exegete throughout the millennia as being the Hebrew word for "4" 'arba^c.

ADDENDUM

Just before this section went to press, the author received very

welcome typological confirmation of the intermediate mode, postulated here for Hittite. This example is particularly welcome in that 1) it comes from a language in continuous close areal contact with Hittite (Hurrian, the close contact being both in Anatolia itself and in Canaan, where the Hittites and the Hurrians were the main non-Semitic components of the population) and 2) it is the result of an analysis of a Hurrian toponym in Canaan, arrived at by a methodology identical to that that we have employed. Our colleague, Gary Rendsburg, sent us an article by the great Israeli master, Prof. Shmuel Yeivin, who has worked in the field of Hurrian and Anatolian onomastic remnants in Canaan from a time preceeding our birth. Yeivin (1971:396-97) discusses the name of the site of the Temple: Moriah.

Briefly outlined, his theory is as follows: In II Sam 24:19 ff., David negotiates with the last Jebusite ruler of Jerusalem, to purchase the site of his "threshing floor" in order to establish an altar to YHWH there. This place is called in the Hebrew *gōren 'Awranaḥ* "The Threshing Floor of 'Awranaḥ" (consonantally *'wrnh*, a title which < Hurrian *ewri-ne* "the lord/king"). It becomes the site of Solomon's Temple (II Chron 3:1). Yeivin postulates that in Hurrian, alternate to "Threshing Floor of *Ewri(-ne)*" (the *-ne* of 'Awra-nah is the Hurrian "def. art."), the place was called "The one (= Place vel sim.) of (the) King (*ewri*)." Yeivin states that this was done in Hurrian by means of a prefixed *me-* (with a meaning similar to our **-apa* suffix) which, when attached to *ewri* "lord/king," was rendered in Hebrew as מוריה. The *aleph* in מוריה is only necessary because the word begins with a vowel. If a word begins with a vowel, there is no choice in Hebrew but to begin the spelling of it with the grapheme א. This does not imply that the Hebrews heard foreign words which began with a vowel as having a glottal stop before the vowel; it is purely a matter of mechanics of the writing system. The combination **me-ewri* was thus subject to no such constraint.

We deal *in extenso* with the whole 'Awranaḥ/'Arawnah (traditionally Araunah) problem in Arbeitman 1981a, section Ia, where much of our discussion is centered around considerably earlier articles of Yeivin's.

Since we are already engaged in an addendum, we will take the opportunity to briefly include three items heretofore neglected. We have rendered all items containing our typological suffix "the one of" as "The one (= City [vel sim.]) of..."; but in Qiryat Arba we have the word "City" explicitly plus our suffix *-apa*. Thus, we are here dealing with a redundancy feature: *Arapa (ara-apa)* itself should be adequate for a polinum; but it is "reinforced" by the explicit *Qiryat*, hence "The City, the one of the Fellow."

At a much later period of symbiosis, that of the Hellenistic Greco-Aramaic bilingual/bicultural world of Syria, the Greek "Father of Gods and of Men" obtained an Aramaic epithet, *Zeus Mōdōbaḥos* "Zeus, the one of the Altar," using the Aramaic cognate to the Hebrew word (מזבח) that II Sam used for the altar that King David built to YHWH at Moriah, in the period of Hurrio-Hebrew symbiosis in Jerusalem/Jebus. In the latter, "Moriah" reflects the symbiosis, in the former the word "altar." Cf.

Teixidor (1977:86) for "altar" gods in general. This book is so pregnant with examples of syncretism in culture and religion that we intentionally refrain from bringing in any further examples from it, and merely urge it on colleagues who are interested in our own approach.

Cross (1973:40,99,127) discusses the "man of war" concept that we expatiated on above:

The language of holy war and its symbolism may be said to be the clue to ... Psalm 24.... These epithets stem from the old ideology of the league, from the "Songs of the Wars of Yahweh."

In Ex 15:3, he notes concerning יהוה יריב "Yahweh is warrior" (we reproduce his consonantal reconstruction, which produces a trigrammaton in place of the wonted tetragrammaton) that:

the major versions (Sam G Sy) have the reading *gbr mlḥmḥ* [this "have," customary with scholars who discuss the versions, is an unhappy word for "reflect"; obviously the LXX, at least doesn't "have" *gbr*]. Evidently we have here a conflation of ancient variants: *yahwē gibbōr* and *'is mlḥāmā*. For metrical reasons *gibbor* [sic; no macron. Καὶ ἄφες ἡμῖν τὰ ὀφειλήματα ἡμῶν, ὥς καὶ ἡμεῖς ἀφήκαμεν τοῖς ὀφειλέταις ἡμῶν.] seems the preferable reading.

We cited above another epithet of the God of Israel, יהוה יריב /ze sīnay/. Slightly later, we cited Arabic *ḏū l-qarnain*. The Heb. "demonstrative" likely represents a frozen non-nom. The Arabic "demonstrative" is fully declinable, and in our Quranic verse we have actually *ḏū l-qarnain* "(concerning) him of the two horns" (gen. governed by a prep.). Cross (p.101) reconstructs the consonants of the Hebrew to render an archaic reconstructed (metri causa?) יהוה יריב /zū sīnay/.

We discussed the semantic "overlay" of $\sqrt{*}\delta kr$ and $\sqrt{*}gbr$, both "penis, male, power." In spite of the semantic "overlay," the two lexical items differ in their etymological direction of development: $\sqrt{*}\delta kr$ develops from "penis" > "male" (> "power"), while $\sqrt{*}gbr$ develops from "power" > "male" > "penis." The details are discussed in Arbeitman Forthcoming a.

It is in this sense, "overpowering, imposing force, destroying," of the verb *gābar* that Cross seems to be understanding the LXX's rendering συντρίβων (πολέμους) in Ex 15:3. One would thus have to presume that the LXX reflects a participle, *gōbēr*. Of Cross' three "major versions," we have seen the LXX and the Sam. What does the third version, the Syriac actually have? It has a translation very close to that of the Samaritan: whereas the latter had said "YHWH is a hero in battle (*qrbbh*)," the Syriac reads *mry' gnbr' wqrbtn'* (/qrbtānā/) "the Lord is a hero (noun) and warlike (adj.)," the last word being from the same root as the noun in the adverbial phrase of the Sam. (for the forms of the three Syriac words, see Brockelmann 1962, §§ 111a, 69, Anm. 2, and Nöldeke 1904, §129 respectively). Thus, none of "the major versions" has, reflects, or reads "hero-of-war." In fact, all three (and the Vul-

gate as well) reflect the same "expansionistic" interpretational tendencies that we are used to in the Jewish Targumim proper, Onqelos, Pseudo-Yonatan, and Yerushalmi to the Pentateuch, and Yonatan to the Writings and Prophets. We are blessed with six Aramaic Targumim, the above mentioned Jewish proper ones, and the others, Neophyti, Samaritan, and Syriac. Polotsky (1963:100, fn. 5) wrote:

In point of fact it is much to be regretted that the comparative study of Semitic Bible versions has entirely gone out of fashion. It is eminently useful, as a linguistic rather than as a theological pursuit, less for the reasons given by Wright than as a means of acquiring familiarity with the differences among the Semitic languages, esp. as regards syntax and idiom.

We could not be more in accord; however, the emending of the Hebrew text should never be done lightly, and in the case we are here considering, the versions do not in any wise suggest the unwarranted tampering. This is the sort of versional misuse that so entraps young students, using the apparatus criticus in the *Biblia Hebraica Kittel* or in the more recent *Biblia Hebraica Stuttgartensia*, which was intended to remedy the failures of the former, but ended up with the same results: students confident in emendations, cited as reconstructions of the "lost" true original Hebrew reading, but not really necessitated by the actual facts of the versional renditions themselves. If, in this case, the versions do not reconstruct to a lost Hebrew *gibbōr*, then we are only left with the justification of meter. Meter (< IE **mē-* "to measure") is not קָדָחַט (< **mā-* "breast"), and we do not owe it such unqualified respect as to ride roughshod over the Hebrew Text. See note (*) below.

VIII. OTHER ETYMOLOGIES FOR חֶבְרוֹן (AND, INCIDENTALLY, FOR קְרִית [אַרְבֵּעַ])

The time has come to fulfill our promise (fn. 17) to discuss some of the other major etymologies which have been proposed for Hebron. A footnote in an Albright article is never a bad place to summarize an

— *We have referred to the Sam. Targ., while Cross apparently means the Sam. Heb.; but even the latter does not have or reflect Cross' **gbr mlhmlh*. It reads גְּבוּר בְּמִלְחָמָה (!). Freedman (1980:202) uses the very reading גְּבוּר בְּמִלְחָמָה *to establish a metrical link* between our verse and Deut 6:4 (the Shema). See also the views of O'Connor (1980:180 and 395). Particularly of interest to us is his analysis (p.102) of the use of אִישׁ vs. אִדָּם in Gen 1-3. For the LXX cf. Is 42:13. It is our own infraction of "normative" academic procedure that caused this discussion to result in an addendum: we have looked at the texts *before* "bothering" to consult the secondary literature. Such sins may the Lord multiply!

entire world from. So we begin with Albright (1965:458), and follow our practice of giving the footnote in parentheses:

In the harbor of Byblos there were twenty ships ... which were in *khubûr* relationship with Smendes, prince of Tanis From the context and from the meaning of *khubûru* in Accadian and Ugaritic (and of the derived *shbêr* in Coptic), we must suppose that it has some such meaning as "trading company." (.... The correct etymology was given *BASOR*, No. 63 [1936], p.28, n. 27, where an article on the subject was promised. The article in question has not been written, but the conclusions have now been in large part anticipated by Rosenthal, *Orientalia*, 1939, pp. 231f. and by Brandenstein, *ZA* 46 [1940], p. 87, n.1. Schroeder [*ZA* 35, p. 49] was clearly right in explaining Assyrian *bît hubûri*, *bît huburni*, *bît hiburni* [the latter two being Hurrianized forms with the Hurrian demonstrative particle *-ni*] as *Proviantmagazin*, "storehouse for grain." With this rendering would agree the Assyrian documentary evidence, the building inscriptions ..., the Keret epic of Ugarit [in which Keret gets wheat from the *bt hbr*], and the reference in Proverbs. Hebrew *hbr* [for **hbr*] has the same meaning in the Macabean coins There were demonstrably two Semitic stems with similar meaning, *hbr* and *hbr*. Coptic *sbêr* [Albright's fn. rendering different from his text rendering, *YA*], "companion, partner," bears the same relation to older Egyptian *hubûra*, "company, partnership," that Phoenician *mmkt*, "king," bears to older Canaanite *mmkt*, "kingdom" [the relation of agent noun, the one who does, to abstract noun for the function, *YA*]. Semantic parallels are legion. [On the linguistic cognates of Canaanite *hubûr* see further the discussion in *Studies (Presented to David Moore Robinson* (St. Louis, 1951), pp. 229f. (Here Albright refers to Mazar [1946] which we will soon summarize.) On the term for "brewery," *bêtu hubûri* in Canaanite, see now *Supplements to Vetus Testamentum* III (Leiden, 1955), pp. 10-12. There is perhaps a popular etymology involved, since one *hubûru* appears to be of Semitic origin whereas the word *hubûru* (meaning) "brewery vat," is apparently Hurrian.].

Two immediate observations are in order: 1) that footnote (!) was 1 out of a 119 footnotes in a 49 page article, an article of Albright's which appeared as an appendix in one of four Festschriften devoted to this peerless scholar; 2) the present author has had a number of Albrightian disciples as teachers, and more than once heard of a one-time "conspiracy" of these students to establish a **Journal of Albright's Forthcoming Articles*.

In the Mazar ([Maisler] 1946:10) article that Albright referred to, the Israeli scholar notes:

The most interesting verse, however, is Job 40:30, where particular note must be taken of the parallelism חֲבֵרִים--חֲנֻכִּים. The latter word recalls the stem *hbr*, which is to be found both in Accadian and in Canaanite. The primary meaning of Accadian *huburu* is obviously "company, community." Old-Assyrian *bīt hubūri* and Middle-Assyrian *bīt hu/iburni* (with the Hurrian particle *-ne/i*!) means "store-house" (< "community house"), and Ugaritic *bt hbr* (Keret I, ll. 172-3), literally "community house," has probably similar meaning.... (Virolleaud *La Légende de Keret* [1936], p.72: "le conseil du roi" comparing Prov. 21:9, 25:24).... It is worth noting the passage in 2 Chr. 20:35-37 where we find the stem חֲבֵר in the same sense:

[Thereafter Yehoshapat, the king אַחֲרֵי-כֵן אֶתְחַבֵּר יְהוֹשָׁפָט מֶלֶךְ יְהוּדָה
of Judah *made a pact with Achazya*, וַיִּחְבְּרֵהוּ עִם אַחְזִיָּה מֶלֶךְ יִשְׂרָאֵל
the king of Israel and he עָמַר לַעֲשׂוֹת אֲנִיּוֹת
bound himself with him to build

boats (our translation, as Mazar doesn't provide one. The Hebrew words are literally "he bound himself," *'itpa^cel* reflexive ... "he bound himself," *Pi^cel* + suffixed "reflexive" pronoun). The outstanding versional rendition is that of Jerome: *Post haec inivit amicitias Josaphat rex Juda cum Ochozia rege Israel et participes fuit, ut facerent naves*, "Thereafter J. entered friendly relations with O. and he became a partner [with him] in order that they might build ships." The significance of forming "friendly relations," and the explicit fact that such a reciprocal/mutual partnership is formed on a particular occasion for a given particular purpose are elements which we will put into proper perspective in section IXα-γ. YA].

In Biblical Hebrew the stems *hbr* and *hbr* have obviously fallen together, but in the quoted examples it is still possible to recognize the Canaanite meaning of *hbr*.... Since Phoenicia became the center of highly developed purple industry, and purple was the main export of the Phoenician traders, it follows that **Kina^c* ..., *Kin-ahhu* in Nuzi Accadian, received the connotation of "merchandise *par excellence* of the Canaanites," i.e., "red purple," whereas the Canaanites themselves called it *'argamānu*, as known from Ugaritic and Hebrew. (*Argamānu* [Assyrian *argamannu*] is probably derived [so correct Mazar's typo] from Anatolian *argam-*, Hittite *arkammas* "tribute.").

The number of cuts we had to make, in our quoting just a relevant portion of this exemplary seminal article, is of the stuff that rends the summarizer's heart; we cannot, however, allow ourselves to quote in full even what is utterly relevant (*dommage!*). The only other article we will "cannibalize" here is Fensham (1979:17-21), where he deals with Keret 79(b)-89. We are concerned with only one bicolon in this text:

cdb *akl* *lqryt*
h̄tt *lbt* *h̄br*

...*h̄br* appears in the Keret-epic as a place name, cf. in CTA 15:5-4 where *h̄br rbt* and *h̄br trrt* ["H̄br Major" and "H̄br Minor"] are used.... The term *qryt* is then taken as "city".... It is, however, not permissible to build arguments in favour of *qryt* [based on the contrast of this spelling with the usual spelling of "city" as *qrt*] as "granary".... It is, thus acceptable to regard *qryt* as an alternate orthography for *qrt*....

The second view on *qryt*--*bt h̄br* is to connect these parallel terms to the Akkadian *qārītu* and *bīt hūbūri*. Albright (SVT 3 [1955], 10-12) was the first to draw the attention to this possibility in which *qārītu* [sic] means "granary" and *bīt hūbūri* "brewery". (Driver translates [*h̄br*] by "storehouse" and Herdner by "magasins"....)....

The third view is to take *qryt* as "city" and *h̄br* as "community" by connecting it to Hebrew *h̄br* ... the parallelism is to a certain extent destroyed by such an interpretation.

This leaves us with two probable translations for lines 80(b)-82....:

- (1) Prepare wheat ... for the city,
grain for H̄br (place name of Keret's city).
- (2) Prepare corn for the granary,
grain for the brewery.

.... Both translations are acceptable, but we slightly prefer the first option, because *h̄br* is used as a place name in CTA 15:5-4 and *qryt* "city" forms a neat parallel with the place name of the city of Keret.

So we have found the basis for another of the Enc. Jud. anonymous allusions (see fns. 14 and 15): "granary" as the meaning of Hebron. Actually, we do not find in any of the three summarized articles any explicit reference to Hebron itself. However, we cannot exclude the possibility that some other article makes the connection; naturally, we have not been able to consult every article ever written on the subject.

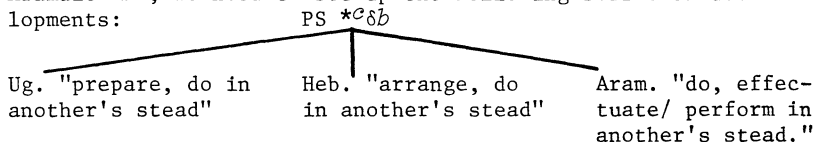
Aside from three comments of importance to us, we deem it the better part of valor to let these articles speak for themselves, and not allow ourselves the presumption to feel that they require our analyzing each of the questions raised.

1. The verb used in the Keret text for "prepare," *cdb*, likely has wider connections than has previously been recognized. We suggest that Aram. *c̄bd* (cited in section VII, where God "performs" victory-battles "for/in behalf of" his folk, "does them in their

stead" [T Ps.Y. and TY]) is far more likely to be a metathesized development of the root seen in Ug. *ʿdb* than a cognate of Heb. *ʿbd* "work." This is suggested not only by the semantic range of the Aram. word (with its limited degree of "overlay" with the Heb. homonym), but by the regular non-use in the Targumim of Aram. *ʿbd* to translate Heb. *ʿbd*, but rather of Aram. *plh* (verb) and *pln* (noun) e.g., T0 to Ex 5:11 and 18. Thus, we have a case analogous to that of Aram. *šk* "find" vis à vis Heb. *šk* "forget," where all the attempts to reconstruct a proto-language umbrella meaning, with an *unitas oppositorum*, have failed to convince, and two homonymous roots (at least for the synchronic phonology) should be set up. Gordon (1965: 454, s.v.) discusses the Ug. noun *ʿdb* "agent" [one who performs the land management *in behalf* of the owner]. Gordon also discusses two occurrences of Heb. *ʿzb* where this verb cannot be the regular Heb. *ʿzb* "abandon, forsake," but are rather to be connected with our Ug. root *ʿdb*. In one of the occurrences which Gordon cites (I Chron 16:37), he says the verb "seems to mean 'and it was arranged'." A more compelling example is cited in the *Jewish Publication Society Torah* (1962:140): the verb in question in Neh 3:8 and 34 almost certainly means "arrange, put in order, restore"; particularly important in this determination is a parallelism between the two verses, a parallelism of "restore the wall of Jerusalem" of verse 8, and "restore, sacrifice, . . . , bring to life the scorched stones from the dust-heaps" in verse 34. Perhaps this was the first recorded such utterance of scoffers at the ability of Jews to "bring back to life" their scorched ramparts; it certainly was not to be the last.

Gordon also raises the issue of Ex 23:5, but merely gives a reference to Cassuto (which we have not been able to consult). In this passage, the verb *ʿzb* must mean "do in another's stead." There are certain requirements of moral action which you are required to perform not merely for your "fellow/friend," but even for/in behalf of/in the stead of your "enemy." Your relationship to or feelings for the "other" in question are irrelevant; the duty to do this thing, when and if the "other" is not present to do it himself, is unconditional. The interpretation of the verb in the *JPST*, based on a *conceptually* identical commandment in Deut, is, thus, misguided, for the latter commandment is employing a verb of a totally different semantic world, although the meaning of the two commandments as a whole is one and the same.

In order to account for Ugaritic *ʿdb*, Hebrew *ʿzb*², and Aramaic *ʿbd*, we need to set up the following series of developments:



2. One slight possibility for an alternate theory of Qiryat Arba || Hebron, a theory which uses our own methodology, mutually translatable (or, at least, closely connected) polinymy, evenuates from the summarized papers. We wrote in Arbeitman (1981a, section Id) words to the effect that, if the scholar, while presenting his own theory (which he remains confident in), comes across evidence, no matter how improbable it may seem to him, to establish an alternate theory, that scholar has the duty not to cover up that evidence, but --in order to be honest with the data-- to present it in his paper. Does this mean that we are totally cynical as to the possibility of etymological truth (after all, the etymology of "etymology" is "true/truth")? No, not at all; only that we never fail to remember that in our science, subjectivity cannot be 100% excluded, and, at best, we are left with what a given scholar, having (to the best of his ability) weighed all the variables, finds the most plausible X (X = some point between hypothesis and theorem). Almost nothing in our science is axiomatic, almost nothing 100% demonstrable. Does this deprive our discipline of the prerogative to call itself "science"? In English this is a tough dilemma; in German it is but the difference between *Wissenschaft* and *Naturwissenschaft*. The results of experiments in our science are not candidates for *Fachgenossen* to reproduce in their own labs under double blind test conditions (and all other such imposed controls) that *Naturwissenschaft* demands for a theory to be generally accepted.

It is in this spirit that we offer the alternate possibility that is conceivable for the polinymy Qiryat Arba || Hebron.

In light of Fensham's "probable translation (2)" of the Ug. text (the option he himself prefers slightly less): *qryt* "granary" || *hbr* "brewery," we *could* translate our polinymy, Qiryat Arba "The Granary of (the eponymous hero) Arba" || Hebron "Place of the Brewery." *The Granary of Arba" would then be like "The Threshing Floor of Awarnah" (addendum to section VII) and "Place of the Brewery" would offer the produce for which the yield of *The Granary" is used. Theoretically this seems a perfectly plausible option, but we do not seriously entertain it for a number of reasons: (1) what we know of the situational reality and context, and (2) the fact that we have four alternate names for this city, the other two being translations of only the etymologies that we have so far proposed for (Qiryat) Arba and Hebron. To add something to our formulation above: we do believe that some (at the very least) etymologies are truly capable of a relatively high degree of etymological certainty and truth, but only when linguistics and *realia* (what we can glean from extra-linguistic knowledge) form a working relationship and unite in partnership. The other two names of this city will be the subject of section IXa-b, while the *realia* (the situational context and what we know --to the extent that we humans "know" anything) will become paramount in section IXc.

3. The summarized articles spoke of the existence of $*hbr \sim *h̄br$, but nowhere explicitly showed this second variant, as all their examples had either unambiguous $h̄$ or the ambiguous Heb. ה (phonemically either /h/ or /x/). The bifurcation does, however, indeed exist, and is easily demonstrable:

PS $*h̄$	PS ambiguous	PS $*h̄$
Arabic خبر "know s.o. well," 3rd and 6th forms, "negotiate, treaty, parley."	Heb./ Aram. חבר "unite, join, be/ become a <i>particeps</i> ."	Akk. <i>ebēru</i> "unite."
Eth. <i>xabara</i> "join, associate, unite, agree."		Ug. <i>h̄br</i> "companion!"
(Ug. <i>h̄br</i> [?]).		

In Akk., PS $*h̄abāru$ would > $*h̄abāru$, while PS $*h̄abāru$ > *ebēru* (cf. von Soden [1952:24]: "[Of the PS laryngeals] nur das $h̄$ erhalten geblieben [ist]" and Moscati et al. [1964:39 and 42, with a reference to Rössler (ZA [1961], pp. 158-72)], where it is discussed that PS $*ḡ$, $*h̄$ occasion the change of $*a$ into *e*, always for $*h̄$, not always for $*ḡ$).

As to the Ug. noun, there is so little consensus, that we had best ignore it here. The Eth. verb can function as an "auxiliary" with inf. or coord. verb: "to do jointly with, do in league with" (Lambdin 1978:444). As a main verb, it is used in a general sense of "to associate, join, agree," or in a specialized sense of "to be part of a conspiracy." The Arabic, in the 3rd and 6th forms, has the very specific meaning of "to negotiate, treaty, parley" (Wehr s.v.), meanings which *preserve* the most hoary and quintessential range of the primitive sphere of this root.

In the Dead Sea Scroll *Targum to Job*, there is a delightful connection wherein the Aram. verb חבר is substituted for the adverbial (prepositional) phrase לַחֲבֵרָא of the Heb. *Vorlage*. Where the Heb. of Job 34:8 reads:

And he travels in fellowship with וארח לחברה עם-פעלי און
doers-of-evil,

the Targum gives (Sokoloff 1974:74-75):

And he associates with doers-of-falsehood ומתחבר לעבדי שקר

Gesenius s.v., renders the Heb. phrase as "Und er geht z. Gemeinschaft mit, er schlägt sich auf d. Seite ..." The best rendering in terms of both the Heb. verb "travel on a road" and modern parlance would be "He is a fellow-traveller of evil-doers."

Assuming (as is customary) that the Heb. root represents $*h̄br$ (although no sure basis for determining it is known to the author), we can adduce a beautiful example of continuation from the ancient to the modern in modes of addressing one's "gang,"

an example which would show, alongside the Heb., PS **ḥbr* (the conceptual significance remains at all events). In contemporary Israeli slang, there is an overly used expression, חברים "you guys" (perhaps better, the English "yous/yuz guys"), like our expression, indiscriminate as to gender. In the *Alcalay Dictionary*, it is cited as *ḥevrayyā* (f. sg. collective) in contrast to the Aram. derivative m. pl. חברים (*ḥavrayyā*) "friends," while in the *Megiddo Dictionary*, both items are (incorrectly) lumped together under f. sg. (collective) as variant spellings. In the slurred, rapid slang of Jerusalem, the every day expression "come on, you guys" was perceived by us as [ba'ū ḥevre].

The use of this vocative "fellows, guys" is not different in any meaningful way from the vocative used in the Akkadian text cited by Loewenstamm (1980:127):

Friends listen, warriors *eb-ru uṣ-ṣi-ra qū-ra-du ṣi-me-ma*
hear.

- 3.1 *ḥbr* and *ḥbr* are obviously not accidental synonyms; for sure, they are the manifestations of an archiphoneme split: a PS *ḥ* bifurcating into *ḥ* (ֿ) and *ḥ* (ֿ). This phenomenon is well-known in IE, and requires no elaboration here. We have already cited (section Vb) Lith. *akmuō* ~ Skt. *aśman-*, and the "anomaly" of Lith. *kits* ~ Lat. *cētera* (and even within Lith. itself, from the same demonstrative root, *šis*). These are all examples of the famous "Gutturalwechsel" problem (see de Lamberterie 1980:23-37; we have greatly profitted from discussing the problem with M. de Lamberterie). While the "Gutturalwechsel" problem is generally considered to be a thing unto itself (where four Indo-Europeanists gather, you have five views on it), there is a plethora of archiphoneme split cognates in IE besides velar ~ palatal examples (they are easily to be found in spending an afternoon with Pokorny). We only bring it up here inasmuch as three of our problems come together in it: (1) our two Lith. words, (2) the problem of the "vacuous" deictic, cited in reference to Sem. in section VI, and (3) a problem of a personal nature viz., our promise in Arbeitman & Rendsburg to discuss two Hittite words in another article we had originally planned for this volume, which was announced there.

In Arbeitman 1976:146 we alluded to the "vacuous" deictic in Skt. *āsr̥-k* "blood." We returned to it in Arbeitman 1980c:227. Vavroušek (1979:73-74) quotes Hrozný's observation re Lat. *nunc* ~ Hitt. *kinun* that "einem **nun* ist in dem lateinischen *nunc* die Partikel **re* angehängt, in dem hettitischen *kinun* dagegen die Partikel **ki* ... vorgesetzt worden." (emphases ours). Cf. also Vavroušek's (fn. 36) reference to Bader on Lat. *nempe*, *porceo*. What we see is that these attenuated deictics can be either preposited or postposited (at will [?], it would seem) in IE. The particle is postposited in Skt. *āsr̥-k*, where

we can assume that the appearance of a palatal reflex is blocked by the proximity of \tilde{r} . See de Lamberterie (1980:25 and 31), which we excerpt: "... il a été reconnu depuis longtemps que la proximité d'un r pouvait entraver la palatization dans les langues *satəm*. ...l'échange de gutturales est bien attesté dans d'autres langues *satəm* après r , ce le type russe *žr̥zat'*, *žrgat'*" (with a reference to Watkins 1975, which we proceed to quote the English original of, though the formal publication was in French). Watkins (1975:527) observes: "... an unexpected benefit of the equation [of *žr̥zajet/žrgajet* "to make motions during coitus" (definition from R. Jakobson) with Vedic *ṛghāyāte* "to be in a state of sexual excitation" (definition arrived at independently by both C. Watkins and S. Insler)] is that it furnishes to Slavic historical phonology the first clear evidence for the predicted development of word-initial syllabic \tilde{r} : *ṛghāye-* > Russ. *žr̥zaje-*"

Morphosyntactically, Skt. acts in *āsṛ*-k in the same pattern as Lat. does in *nunC*. In Arbeitman 1976 (cf. also 1980c:229) we gave proof for a functionally identical particle (< deictic) in Luwian, where it is (in the manner of our Skt. and Lat. examples) postposited. As mentioned above, Hrozný saw the cognate of the Lat. (to be extended now to our Skt.) particle, preposited in Hittite. Thus, Luwian shares the syntactic isogloss with Lat. and Skt. (etc., discussed in our two articles), while Hittite, differing syntactically, shares the etymon with Lat. and Skt.

McQueen (1975:21), discussing the name of the Hittite homeland, writes: "...Nesas, which may be an alternate spelling of Kanesh in an attempt to represent an original Knesh ... with the addition of a nominal suffix [thematization] -as." Actually, it is well-known that this is not the way that Hittite dealt with the inadequacy of the borrowed cuneiform to represent initial consonant clusters. The variants *kā-neš* ~ *neša* can be explained in only one satisfactory way: both mean "(The) Homeland" (see the cognates in Pokorny, pp. 766-67; particularly of interest is Toch. *naṣu* "Freund" [or, better, our *lantsman*]; the entire IE semantic sphere of the root is the subject of Frame 1978; the words of immediate concern to us are cited on pp. 134-36). The alternate form *kā-neš* varies only in having the (in IE and, to judge by Cun. Luw., still in proto-Anatolian) optionally used or neglected "vacuous" deictic; and this it has in the preposited position that Hrozný's observation would predict it in for Hittite. On the stages from optionality to compulsoriness for these deictic appendages, see Arbeitman 1980c:228-29.

"The Homeland" was also the name (in the variant with the preposited deictic) that the Luwoid Minoans called their capital by: K-νόσσος (thematic like *neša*, but with apophonic *o* grade).

There is a modern "axiom": "You can't go home again"; but what people forget is that such modern "axioms" begin life as "twists" on what was universally accepted truth, and only therein achieve their effect (and obtain their irony): home is the one place that you *do* return (IE *nes-) to; at least, it always *was*. This is the basis of the Odyssey and the other, lost Νόστος. Nostalgia is a pain for which there is no other analgesic than return. The lamentation of the Israelites in Ps 137 is the great type of this quintessentially human urge, and it is not accident that Verdi used it so effectively for giving expression to the feelings of his countrymen in *Nabucco*.

	: על-נהרות בבל, שם ישבנו גם-בכינו בזכרנו את-ציון:	1
'Eān ἐπιλάθωμαι σου (Lethe)	: איך נשיר את-שיר-יהוה על אדמת נכר:	4
<i>Si oblitus fuero tui</i> (Oblivion).	: אם-אשכחך ירושלם תשכח ימיני:	5

IX. א-מ-ר, ח-ב-ר, ו-ן, AND الخليل

a. IE *mei- "tauschen,
binden, einen Bund schließen;
lind, mild, lieblich,
freundlich sein; lieben"

The question of what *gleichlautende Wörter* to "assign" to a common root vs. the setting-up of a number of homonymous proto-language roots has vexed comparative linguistics since its beginnings. The cases of *dhē- and *bhā- are discussed in Arbeitman 1973 (where the second mention of H.L. *usa*-² on p. 104 should read *usa*-¹, the reference being to "bring," not "build"). Perhaps the most salient example of the unecological multiplication of roots is Pokorny's "multifarious brood of" *mei-: 1.mei- "befestigen," 2.mei- "wechseln, tauschen," 4.mei- "binden, verknüpfen," 7.mei- "mild, weich, lieblich" (we refrain from discussing the remainder). We start with the last: we have seen the Abrahamic titular "(God's) Friend" rendered *miḷ* in Latvian (Is) and *milovnika* in Czech (II Chron). This is Pokorny's 7.mei-; the Czech is a derivative, formed with the suffix discussed at the end of section VI above, of the verb *milovati* "to love"; the stem *milov*- is built on Pokorny's form "mit -l erweitert"; a form "mit -n erweitert" appears in Welsh *mwyn* "freundlich" and O. Irish *mān* "glatt, sanft"; "mit -t erweitert," this root appears in Latin *mītis* "mild, weich."

Pokorny's *2.mei-*, "mit *-n* erweitert" and with a "prenoun" (like "preverb") gives IE **kom-moi-ni-*, appearing in Latin *commūnis* (O.Lat. *comoin[em]*) and Germanic e.g., Gothic *gamaîns*, both "gemeinsam." An *-n* stem noun appears in Baltic e.g., Lith. *maĩnas* "Tausch," and a derived verb e.g., Lith. *mainaũ* "wechseln, tauschen" (also appearing in Slavic e.g., OCS *izměniti* "διαμερίζω." Gk. ἀμερίζω, "mit *-g^w* erweitert" means -- no, let us here leave the dictionary and go to beg our sweet.victuals from him who begged his bread through seven cities. Certainly the world would be a far sadder place if Homer should not have his own Targumist, a man who, like Lieberman's rabbinic sages (section Ib), went to the provinces to collect words (in the real spoken Greek). Though it took two millennia, fate was fair and blessed the Greek people with two great Targumists: one for the Gospels (whose work we used in section Vb), and one for Homer, Kazantzakis the desireless, the fearless, the free. This man knew two things: (1) that to escape craving is to escape ^dφόβος and to be free, and (2), perhaps better than anyone in memory, his Homer. We proceed with three passages from Homer together with Kazantzakis' felicitous and light-bearing Targum (Iliad 1962, Odyssey 1965):

Z 233-36

χεῦρας τ' ἀλλήλων λαβέτην καὶ πιστώσαντο.
ἐνθ' ὅτε Γλαύκῳ Κρονίδης φρένας ἐξέλετο Ζεὺς,
ὅς πρὸς Τυδεΐδην Διομήδεα τεύχε' ἀμερίζεν
χρῦσα χαλκίων, ἐκατόμβου ἔννεαβούων.

Targum Kazantzakis:

δῶσαν τὰ χέρια τους κι ὀρκίστηκαν πιστῇ
φιλικῇ κι ἀγάπῃ.
Τότε τοῦ Γλαύκου ἐπαρασάλεψε τὰ φρένα
ὁ γυῖς τοῦ Κρόνου,
ποὺ τ' ἄρματα τοῦ πῆγε κι ἄλλαξε μὲ τοῦ
τρανοῦ Διομήδη,
χρυσᾶ μὲ χαλκίνα, ἐκατόβοδα μ' ἐννεάβοδα
μονάχα.

πῆγε is dealt with in Arbeitman
1974:74.

They (dual) grasped each other's hands and pledged trust (mid.-recip.), but Zeus Kronides yanked his wits out from Glaukos, who ended up giving his gold-armor for the bronze of Diomedes Tudeides, a 100-oxen-value for a 9-oxen-value.

They gave their hands and and swore a faithful friendship-treaty -and- love. Then the Son of Kronos undid Glaukos of his wits, so that he went and made a trade with clear(-headed) Diomedes: his own golden armor for the other's bronze, hundred-value as against nine-value! A trifle!

H 299-301

δῶρα δ' ἄγ' ἀλλήλοισι περικλυτὰ δώομεν ἄμφω
 ὄφρα τις ᾧδ' εἴπῃσιν Ἀχαιῶν τε Τρώων τε·
 ἡμὲν ἐμαρνάσθην ἔριδος πέρι θυμοβόροιο,
 ἡδ' αὖτ' ἐν φιλότῃτι διέτμαγεν ἄρρησαντε.

TK

Μόν' ἔλα, δῶρα συναλλήλως μας
 ν' ἀλλάξουμε πανῶρια
 τοῦτα γιὰ μᾶς κανέννας κάποτε γιὰ Τρώας
 νὰ πεῦ γιὰ Ἀργύτης:
 „ Ἐκεῖνοι οἱ δυό τους καὶ πολέμησαν
 σὲ καρδιοφάουσα ἀμάχη,
 καὶ πάλε πρὶν χωρῶσυν μόνιασαν
 καὶ φύγαν φιλιωμένοι”.

come, let us both give each other renowned gifts, so that any Akhaian or Trojan may say (hereafter): "Although for ^dEris' sake those two fought, for her who consumes the heart, nevertheless they parted only after having joined/united in a friendship-pact."

Only come, let's mutually exchange our really-beautiful gifts, so that anyone any-time, Trojan or Argive, may say concerning us two: "Those guys, the two of them, sure they made war in heart-eating enmity, but in the end, they did not go their own ways and take leave (hendiadys) until they were reconciled by having become treaty-friends."

ω 284-86

εἰ γὰρ μιν ζωὸν γε κίχεις Ἰθάκης ἐνὶ δῆμῳ,
 τῷ κέν σ' εὖ δώροισιν ἀμειψάμενος ἀπέπεμψε
 καὶ Ξενίῃ ἀγαθῇ. ἡ γὰρ θέμις, ὅς τις ὑπάρξη.

if thou hadst found him, yet living, in the land of Ithake, for sure, he had sent thee off only after having well-reciprocated with gifts and the fitting (requisites of) guest-friendship; for so is the Way (IE **dhē-*: Lat. *fās*, O.P. *dāta* > Heb. *נָתַתָּה*; to Lat. *fās*, *nefārius* and likely *multifārius*; [and for the benefit of our Biblicalist-colleagues: IE **kred-dhē-* > Lat. *crēdō*; Heb. *נָתַתָּה* is, thus, "cognate with" Eng. "creed" {and "fact"}, not with "data," as so often stated]) once the first party has begun (the exchange).

νὰ πεῦ: if the continuum of aorist subjunctives: εἴπῃ, εἴπῃ, πῃ, πεῦ makes Dhimotiki unpure, then Cl. Gk. itself is non-Katharevusa with its aor. (indic.) εἴπον/εἴπα, which is a broken down "corruption" of **e-we-wq^w-om/η* (Homeric *ἔειπον* < **eweupon*, with dissimilation of *-we-up-* into *-ip-*); thus, in the Classical εἴπον, *-ιπ-* is all that remains of the root **weq^w-* (cf. Fernández-Galiano, 1971: 149, fns. 6 & 7). [Boldface = root].

TK

"Αν ζοῦσε ἐκεῖνος καὶ τὸν ἔσμιγες στὸ κάστρο τῆς Ἰθάκης,
δῶρα κι αὐτὸς πολλὰ θὰ σοῦ δινε, καὶ
πρὶν σὲ προβοδώσει,
θὰ καλοπέρναες· ἔτσι γίνεται μὲ αὐτὸν
ποὺ πρωταρχίζει

ἔσμιγες < Cl. Gk. συμμείγνυμι
"mingle with" (also used of
sexual "association, congress");
this root is analyzable into
*mei + -g (mutual dealings).

προβοδώσει is a future to προ-
βωδῶ < *προ-ευοδῶ "forth"+ "well"
+ "road"; others derive it from
Slavic *provoditi* "vorausführen,
geleiten," which itself derives
from IE *wedh-² (discussed in
Arbeitman 1973:103 with refer-
ence to Anatolian).

καλοπέρναες we will find in the
dictionaries only as a derivative
of περνᾶω "to fare" (< Cl. Gk.
περάω); thus, "to fare well."
Περνώ (contract form) and παίρνω
"to take" (for which see Arbeitman
1974:74) are both pronounced /perno/,
and it is almost certain that
Kazantzakis intends a polysemic
understanding here: both "prosper"
("fare well") and "take a pretty
bundle" ("take well"); the latter,
seeming vulgar to us, is so apt
to the Homeric *Gefühl*.

Given Kazantzakis' feel for Homer
and for the Demotic spoken langu-
age, it becomes an irrelevant af-
ter-thought to bother to add that
in "severe" Demotic, "to take" is
even spelled πέρνω (not παίρνω).

Were he living and you were
fellowshipping with him as
guest-friend in the Castel
of Ithaki, gifts --why, he
himself would be giving you
a stack of them; even before
he would send you on your
way, already you'd be doing
well (prospering)/taking a
pretty load. So must it go
with him who starts (this
relationship).

[see Andriotis (1967, s.v.)
Andriotes is both the Frisk
and the Chantraine for Mod.
Greek; it is impossible to
recommend his *Etymological
Lexicon* too highly to our
Fachgenossen, Indo-European-
ists or Hellenists.]

[for the concept of polysemy,
see Arbeitman (1981a, Excur-
sus-- Biblical examples);
such polysemy in the Hebrew
Bible is now widely recog-
nized: the concept that we
do not have to determine in
certain passages, which of
two possible homonyms the
author intends; he often in-
tentionally employs the am-
biguous word, using his skill
to act synergetically with
the reader's imagination.
The phenomenon is not yet
recognized in other works.]

The Hellenist who doesn't care to bother with Dhimotiki, or
the Biblicalist who doesn't see any purpose to master the Israeli Dhimo-
tiki (not to speak of even Post-Biblical Hebrew and Aramaic writings,
both for language and concepts) are cutting themselves off from the
Waters-of-Life. One cannot, by way of comparison, conceive of a Latin-
ist totally ignorant of Italian and/or French.

Leaving text, let us return to the rest of Pokorny's 2.mei-; with "-t(h) erweitert," we have Latin *mūtūus* (< **moi-tuos*) "wechselseitig"; A great fortune preserves for us not only the archaic phonological configuration of the root element (which would be readily reconstructible, even were it not attested), but an ancient collocation. Sturtevant (1942:84) notes: "The Latin verb [*mūtāre* 'change, exchange'] is a derivative of the *o*-stem noun seen in the borrowed Sicilian Greek μοῦτον (Sophron 168: μοῦτον ἀντὶ μοῦτου 'one favor for another')...." This is an attestation of an ancient usage forming a link between the type of "one...the other" expressions, discussed in section Vc above and the Homeric usages of ἀμείβω just given. It is the kind of confirmatory data that the comparativist dreams of, but infrequently is blessed with by the gods who preserve or cause to vanish ancient collocations, morphologies, phonologies, syntaxes, etc.; Latvian *mietuôt* "to exchange," Gothic *maipms* "δῶπον," Skt. *mēthati* "gesellt sich zu," *mithā-* "gegenseitig, zusammen," Avestan *miθwara-* "gepaart."

Pokorny's 4.mei-: Skt. *mitrām* "'Freundschaft' aus '*Verbindung'," Avestan *miθra-* "Freund, Vertrag," and ^dMithra. Puhvel (1978:335 ff.) observes:

If there has been anything that Paul Thieme and Georges Dumézil could agree on, it is Meillet's notion that the Indo-Iranian Mitra is the personification of contract.

In the *Iliad* *mītrē* denotes a metal waistband and lends some support to a base-meaning 'bond, band'....

The Slavic term *mirŭ* is even more significant. It already has the generic translation-meanings (Gk.) *eirēnē* 'peace' and *kósmos* 'world' in Old Church Slavic.... the meaning 'peace' is basic to *mirŭ* in Common Slavic terms. Yet the "peace" involved is originally not the antonym of "war" but rather the peace of the community.... Thus in the Old Russian laws, the *Russkaja Pravda*, the meaning of *mirŭ* comes to be that of 'peace community, rural settlement, township'.... The semantic range of *mirŭ* is thus quite well circumscribed.... Whether *mirŭ*, with its fluctuation between *o*- and *u*-stem case forms, goes back phonetically to **mitro-* or **mitru-*, or to **meyro-* or **meyru-* from the same root, remains uncertain (Cf. in this case Old Lith. *mieras* 'peace,' and, granted the etymology **mey-* 'exchange,' Lith. *mainas*, OCS *mena*, Skt. *menā-* 'exchange', Skt. *menī-* = Avest. *maēni-* 'revenge;' for the *r:n* suffix variation, cf. e.g. OCS *darŭ*, Gk. *dōron*: Lat. *dōnum*)....

... the closest parallels to the Old Russian situation are found ... in the *Rig-Veda*, where Mitra ... is associated with the word *kṣéma-* ..., literally meaning 'settlement', but more properly 'quiet' or 'security'. [RV] 2.11.14 *rāsi kṣāyaṃ rāsi mitrām asmé* 'give us settlement, give us peace.' RV 4.33.10 reads *té rāyās pōṣaṃ drāviṇāny asmé dhattā ṛbhavaḥ kṣemayānto nā mitrām* 'make increase of wealth and possessions for us, Ṛbhus, even as security-seekers make a compact'. (Cf. also RV 2.4.3: *agnim ... dhuh kṣeṣyānto nā mitrām* '[the gods] have set Agni [among the clans of men], even as those who want to settle set down a compact'.)

At this point the ineluctability of a confrontation/meeting with the etymological proposal offered by Palmer for *arya-* (1973) occurs, which we postpone (purely for logistical reasons) for Part II of this article.

Pokorny's 1.mei- "befestigen" refers to words which are the *sine qua non* for the Puhvelian "peace community/township/fellow-citizens living united in peace, which at the same time is a κόσμος" (*mirū* = εἰρήνη and κόσμος): Latin *moenia* "Stadtmauern," *mūrus* (Old Latin *moiros*) "Mauer," Skt. *minōti* "befestigt, gründet, baut," *mētar-* "der Aufrichter," Germanic **marīja-* e.g., Old Eng. *mære*, Old Icel. *-mæri* "Grenze, Gebiet"; Middle Irish *methas* "Grenzmark," Old Irish *-tuidmen* (< **to-dī-mi-na-t*, with the wonted accumulated agglutination of preverbs [cf. Thurneysen 1966:356]) "befestigt," and its verbal noun *tuidme-*.

So, we have Pokorny's 4.mei- "friendship and treaty," 2.mei- "mutual exchange" (in Homer, between treaty-partners/guest-friends [relationships of πύστις, φιλότις, ξενύη], the members being ἄλληλοι, ἀρᾱμήσαντε), 1.mei-, whereby communities are formed for men to live in peace and mutual existence, the Slavic for which is assigned by Pokorny to 7.mei-, whence come the words for "friend/love," and "smooth, soft, pleasant" (Old Irish *mīn*) and "mild, soft, gentle" (Latin *mītis*). The common base conceptual continuum of 1., 2., 4., 7. calls for a rewriting of the root: Pokorny 1.mei-, 2.mei-, 4.mei-, 7.mei- = Arbeitman **mei-* ^{μονογενής} "(be) benign, (show) benignity."

Abraham is God's *√mil-* in Balto-Slavic (as well as His *drug*, cf. p. 929 and p. 995) and also His *√prī-* in Slavic and Germanic (*priyatelʹ* and *Freund* etc.). The IE root *prī-/prāi-* (< *preH₂-* ?) shows the same

sogenannt "bifurcation" as Pokorny's *ʔ.mei-* ("love/friend,"/ "peace-community" and "soft, gentle"). For the first meaning-range, in addition to the aforementioned *Freund*, *friend*, *priyatelʹ* group, we have Skt. *priyā-* "spouse" (with m. and f. stems), *priyāyātē* "behandelt liebevoll, befreundet sich," OCS *prěyq* "bin günstig, Sorge für," Goth. *frijōn* "lieben" (to cite merely some better known examples). For the second meaning-range, we have the Greek word for "soft, gentle, mild," which presents, to be sure, some difficulties of form, but none of either semantics or etymology: *πρᾶύς* (*πρᾶΰς*, sometimes in codices), (< **prāy-us*, root ending in *-y* + *-u-* stem-forming "suffix") in competition with *πρᾶος* (*πρῶος*), (< **prāy-os*, with thematic declension). The recognition of the semantic "overlay" of *ʔ.mei-* with *ʔ.prī-* did not require the means of contemporary scholarship, but was in the *Sprachgefühl* of bilingual Greco-Latin speakers (Caelius Aurelianus [fl. 5th cent. C.E.] glosses [*ardor*] *immitigabilis* by ἀκαταπραΰντος "unmollifiable by any balm").

We will give several examples to establish the semantic range of *πρᾶύς*. It is used in an inscription of the 1st - 2nd cents. C.E. with "eyes": ὁσσοῦσι πρῆσειν δέρκευ "look with mild eyes," a usage reminiscent of the *לֵב רַחֵם* of Leah (Appendix to section IV). It is used in Xenophon *Cyropædia* 2.1.29: ἀλλήλους πραότεροι "(horses having become) gentler one to another." Jesus applies it, in a hendiadys phrase, to himself in Math. 11:29 ff. (we provide the Vulgate for obvious reasons):

ἄρατε τὸν ζυγὸν μου ἐφ' ὑμᾶς καὶ μάθετε	<i>tollite iugum meum super vos,</i>
ἀπ' ἐμοῦ, ὅτι πραύς εἰμι καὶ ταπεινὸς	<i>et discite a me, quia mitis</i>
τῇ καρδίᾳ.	<i>sum et humilis corde.</i>

The final passage we will cite is for the abstract, bearing, as it does, on a subject we will return to in subsection c6 of this section. In Ephesians 4:1 ff., St. Paul admonishes the believers with words strikingly similar to Jesus' self description (we supply Luther's apt rendering):

Παρακαλῶ οὖν ὑμᾶς ἐγὼ ... ἀέλιως περι-	<i>So ermahne nun euch ich ..., daß</i>
παῖσαι τῆς κλήσεως ἧς ἐκλήθητε, μετὰ	<i>ihr wandelt, wie sich's gebührt</i>
πάσης ταπεινοφροσύνης καὶ πραΰτητος,	<i>eurer Berufung, mit der ihr beru-</i>
μετὰ μακροθυμίας, ἀνεχόμενοι ἀλλήλων	<i>fen seid, mit aller Demut und</i>
ἐν ἀγάπῃ, σπουδάζοντες τηρεῖν τὴν	<i>Sanftmut, mit Geduld, und vertra-</i>
ἐνότητά τοῦ πνεύματος ἐν τῷ συνδέσμῳ	<i>get einer den andern in der Liebe</i>
τῆς εἰρήνης:	<i>und seid fleißig, zu halten die</i>

Einigkeit im Geist durch das Band des Friedens:

Luther's rendering brings out several essential points: 1) the translation of $\pi\rho\alpha\upsilon\tilde{\nu}$ - by *Sanft*- will be of service to us in subsection aß below; 2) his *vertragen* = ἀνέχομαι ("be tolerant"), while certainly a literal and accurate translation, cannot help but suggest the "treaty, agreement, reconciliation" motifs inhaerent in the noun *Vertrag*, and the reflexive *sich vertragen*; this is not a question of polysemy (deliberate or otherwise) but only of a gradient-continuum of a lexical item's semantic range. His *Band* for σύνδεσμος, while excellent, could be even slightly more mark-hitting if we had a rendering **durch den Bund des Friedens* or, indeed, **durch den Friedensbund*, for just such a "community" and "league" is what the early society of the believers was, wherein the members lived in covenant one with the other, and as a community, with their Lord. Flusser (1965:262) observes that Paul's $\pi\rho\alpha\upsilon\tilde{\nu}$ -της corresponds to the quality רַב עֲנָה "boundless humility" amongst the Qumran sect, while μακροθυμία = the sect's אורח אפים "non-quickness to wrath." In both these societies of believers, such qualities are not "virtues"; they are indispensable prerequisites for the very survival of the יחד (on which cf. p. 1001). We have herewith set the background for a proper understanding of the last name: מ-מרא=קרית-ארבע/חברון.

aß. Hittite *miy-uš*, *miyu-mar*, *miy-eš*-, and *māi*-

We will start once again with the Hebrew text and the versions. The notice in Gen 23:19 is notable for its simplicity of reference:

Mamre which is Hebron.

ממרא הוא חברון.

The great source is Gen 35:27:

Jacob came to his father, Isaac, at ממרא קרית Mamre/Qiryat-(of-the)-Arba (which is $\text{הארבע הוא חברון אשר-גר-שם אברהם}$ Hebron), where Abraham and Isaac had sojourned [been, resided as, resident-aliens {cf. *gēr* "resident-alien, μέτοικος," although in Abraham's describing himself as a *gēr* in Gen 23:4, the LXX employs *πάροικος*, the more common word in latter Greek}].

Targum Onqelos renders quite straightforwardly, but ignores the article:

Jacob came to his father, Isaac, $\text{ואתא יעקב לות-לצחק אבוהי ממרא קרית}$ at Mamre/Qiryat Arba (which is Hebron), $\text{ארבע היא חברון די-דר-תמן אברהם}$ where Abraham and Isaac had dwelled. ויצחק

The rendition of Pseudo-Yonatan is essentially identical, and primarily of interest for what it does *not* say/do (see our comment below):

Jacob came to his father, Isaac, ואתא יעקב לות יצחק אבוי לממרא קרית
at Mamre/Qiryat Arba (which is ארבע היא חברון דדר תמן אברהם ויצחק.
Hebron), where Abraham and Isaac
had dwelled. [Only worthy of note is the explicit locative ל prefixed
to ממרא].

Targum Neophyti here interprets the name in the wise that we saw Targum Yerushalmi doing in Gen 23:2 (section II), where Neophyti itself had another rendering (TY lacks for the present verse):

Jacob came to his father, Isaac, at ואתא יעקב לות יצחק אבוי ממרא
Mamre, The City of the Heroes (which קרתהון דגיבריא היא חברון דאתותב
is Hebron), where Abraham and Isaac תמן אברהם ויצחק.
had settled/sojourned.

The Samaritan Targum is notable only for its translation of קרית:

Jacob came to his father, Isaac, ואתא יעקב ליד יצחק אבוי ממרא מדינת
at Mamre, The Province of Four/ הארבע היא חברון דאתותב תמן אברהם
The Province of Arba (which is Hebron) ויצחק.
where Abraham and Isaac had settled/sojourned.

Torrey (1951:134) observes:

The word *mēdīnā* in Jewish Palestine meant always "province"; outside Palestine it meant always "city"; hence the mistranslations in Lk 1:39 and 8:39. -- *Arā* in Jewish usage meant *the Holy Land*; in Gentile usage it meant *the world*. Hence the mistranslations in Lk 2:1 and Acts 11:28. -- The word *qērīthā* in Gentile Aramaic usually meant "city"; in Palestine it was very much used to designate the "open country" adjoining or belonging to a city or town. Hence the rather ridiculous mistranslations in Lk 8:27 and 9:10.

Thus, the *mēdīnat* for *qiryat* in the ST may be seen in light of this dialect semantic division. Torrey's analysis, however, seems to leave us with neither *mēdīnā* nor *qērīthā* as a Pal. Jew. Aram. word for "city." Torrey's purpose is to demonstrate that Luke the Gentile "was not familiar with the Jewish-Aramaic dialect." In reference to the word "settled" in TN and Sam.T., let us take note that the Aramaic **twtb* maintains the *w-* of the root **wšb* as we should expect in non-initial position, vs. the Post-Biblical Hebrew neo-*Hitpāʿēl* *htyšb*, formed mechanically by prefixing the reflexive morpheme to the *Qal* *yšb*. The ST alone reproduces the article of the *Vorlage* (it-being present in the SH as well; cf. the situation cited for SH and ST in Gen 23:2 in section II,

where, however, the Masoretic Hebrew lacks the article). In view of the complicated relationships we have outlined in the textual and versional readings and/or reflectings of this single morpheme in this single lexeme, and considering e.g., the similar problems of Hurrian *ewri-ne* (Addendum to section VII), which occurs with and without the preposited Hebrew article, we cannot fail to apply the epithet "silly" to the suggested emendation of our present passage, which is offered by *Biblia Hebraica Stuttgartensia*: put the Hebrew graphemes back together and then divide them anew as קרייתה ארבע (reading the now final grapheme, attached to the regens, as *hē locale*). Of all the versions (besides the MH and SH) cited, only T Ps.Y felt any need for an explicit locative particle; the Semitic idiom was quite content without it, and we make bold to suggest that if these editors of emended texts had more *Sprachgefühl*, they too would be content without it. No one would emend a German novel when the self-appointed emender had a less than native speaker's feel for German; there do exist scholars who have such native feel for the "dead" language texts of Homer and the Bible. Alas, they are few and far between, and of course they are the ones who do the least emending. The LXX has some peculiarities in its rendering, which smack of its rendering of Gen 23:2 (and the associated problems there in the SH and ST):

Jacob came to his father, Isaac,	Ἦλθε δὲ Ἰακώβ πρὸς Ἰσαάκ τὸν
to Mambre, to The City of the Plain;	πατέρα αὐτοῦ εἰς Μάμβρη εἰς πόλιν
the same is K ^h eb ^h ron in [the] Land	τοῦ πεδίου· αὕτη ἐστὶ Χεβρών ἐν
(of) K ^h anaan, where Abraham and	γῇ Χαναάν, οὗ παρῴκησεν Ἀβραάμ καὶ
Isaac had resided as aliens.	Ἰσαάκ

The Vulgate once again displays its non-reliance on the LXX:

He came then to his father, Isaac,	<i>Venit etiam ad Isaac patrem suum in</i>
to Mambre, The City (of) Arbee,	<i>Mambre, Civitatem Arbee, haec est</i>
this is Hebron; in which Abraham	<i>Hebron; in qua peregrinatus est</i>
and Isaac had resided as aliens.	<i>Abraham et Isaac.</i>

Jerome's using *haec* here vs. his *quae* in Gen 23:2 is no more indicative of several translators, or of corruption of text, etc. than is our own inadvertent rendering of the LXX αὕτη here by "the same," but there by "which" (other minor inconsistencies occur; such things are unavoidable in a long work, whether ours or Jerome's or anyone else's: *caveat emendator!*). None of the versions feel any need to normalize the sg. verb

of the *Vorlage*.

Beyond the glaring juxtaposition of the names, piled, as they are, one atop the other, there is something else to marvel at: that the Targumim (particularly T Ps.Y) and the Midrashim and commentaries resisted an explication/exegesis having a reference to מִמְרָא דִּי, the standard respectful Targumic circumlocution for the Lord: "The Word of the Lord." It is a reasonable probability that a simple graphemic accident aided in the preclusion of some such aetiological midrash, to wit that, while in Ezra and at Qumran "the word" can be 100% homographic with the third name of Qiryat Arba/Hebron (מִמְרָא), in the "canonical" Targumim it is usually spelled מִמְרָא (we do, however, see מִמְרִיָּה דִּי, literally "His Word of the Lord," in Neophyti). מִמְרָא "(the) word" is a nominal form of the verb מִרַּ, concerning which Sokoloff (1979:212 and 223) writes: "The spelling without *ʿalep* ... is the only one attested in the 4Q Enoch texts" (where he also notes the Ezra occurrence). But, whether by graphemic accident or because such a tale might be irreverent, such an exegesis was not given. It is more a cause for astonishment, however, that no aetiological tale was provided utilizing another word, one that is not only homographic (consonantly), but indeed 100% homophonic: the word "rebellious," cited by Jastrow (p.795) with a quote: זָקֵן מִמְרָא (עַל פִּי זָקֵן) "an elder *rebelling* against the decision of the (religious) court." This word is an adjectival formation from the Aramaic verb מִרַּ "to rebel"; the *Qal* participle from the cognate Hebrew verb מִרַּח is precisely the midrashic exegesis that Albright & Mann provide for the word μαρξ, used by Jesus in Math 5:22 (see the discussion in Arbeitman 1980a: 80). The only aetiology provided at all is that of the eponymous Mamre, ally (along with Eshkol and Aner) of Abraham (Gen 14), but even here we must employ "aetiological" and "eponymous" with circumspection, for the text does not make any explicit nexus between the polinym and the ally; later generations alone have made this nexus assumption. We will deal with this triumvirate of eponymous heroes in section XVIII.

The basic facts remain that two of the alternate polinymy are non-Hebrew; they are both Hittite; all three polinymy have identical meaning, as we shall now proceed to demonstrate for Mamre.

αβκ. The Hittite Texts

The Hittite adj. *miu-*, abstract noun *miumar* (*r/n* stem [inst. *mium-nit*]), and verb *miyeš-* have been the victims of definitional and etymological speculations for more than 50 years now. These speculations (by some of the greatest of scholars, sad to say) have been more obfuscating than problem solving, and needlessly so, for the disparity of the root's application is the very key to both its meaning and concomitantly to its etymology. The scholars have let this key turn into a stumbling block. An item with a very delimited meaning and with almost zero morphological or phonological problems is much more difficult to solve etymologically than one that presents a panoply of such difficulties: each extra difficulty is yet another clue as to where to find the hidden treasure (cf. our approach in Arbeitman 1980b, where only the seemingly impossible confusion of forms that the suffix presented made it possible to find its true origin with certitude).

All discussions of the root base themselves on Götze (1930:32 and fn.1). It is, thus, only appropriate that we employ the master's note as our point of *departure* too:

Es sind seither neue Belege hinzugekommen, die in andere Richtung weisen. In XV 34 II 8, 17 III 17, 39 haben wir die Reihe: „Leben, Gesundheit, lange Jahre, *ilatar*, Söhne, Töchter, Kind und Kegel, der Götter Liebe, der Götter Segen (?)¹, Kraft, Erhören“ [the word Götze gives as "Segen (?)"] forms the basis of his fn. 1, with which we now proceed (¹*miumar* gehört zu dem Adjektivum *miu-*. Dieses wird gesagt vom Regen ...; von einer Botschaft Es scheint aber auch die Charakteristische Eigenschaft der Butter [IÄ.NUN]. Die Vereinigung möchte ich mir am liebsten über den Begriff *ṭahādu* „triefen, strotzen“ denken. Zur genaueren Bestimmung ist weiteres Material abzuwarten)].

The other basic discussion is that of Ehelolf (1933:3 and fn.2), who in a discussion of the word *milit* "honey," finds several occasions where he is confronted with our root:

LÄL-y[*a ma-a-aḫ-ḫa-an*] (26) *ma-li-id-du* Î.NUN *ma-a-aḫ-ḫa-an mi-ū*
Dte-li-pi-nu-wa-aš-ša Z[I.SU]¹ (27) QA.TAM.MA *mi-li-ti-iš-du na-aš*
 QA.TAM.MA *mi-i-e-eš-tu* „Und wie der Honig süß ist, wie der Rahm
 glatt (?)² ist, so soll auch der Sinn des T. gleichfalls süß werden,
 er soll gleichfalls „glatt“ (?) werden“.

As has so often been our experience in this article, the stuff of importance to us is contained in a footnote, Ehelolf's No. 2 in the present case:

S. die vorläufige Notiz von Götze ..., wo als Grundbedeutung der Wurzel „triefen, strotzen“ erwogen wird. Das Material führt mich eher auf eine Bedeutung „geschmeidig, glatt, lind“. *mi-i-uš ha-lu-ga-aš* ... (irgendwie symbolhaft vergegenständlich: *ki-it-ta*): eine glatt eingehende, also eine angenehme Botschaft? -- Möglich, daß auch das häufiger belegte NINDA *miwmiu* ... [here E. cites an occurrence without NINDA] ... hierher gehört. -- Ich bringe, vor allem wegen des Glossenkeils, noch folgende aus einer Kombination von Bo 681, 4f. u. seinem Duplikat Bo 5810 Vs. 4ff. zu gewinnende Stelle zur Kenntnis: *nu te-is-zi DUTU-i e-it-za*.
 √ *mi-i-ū-un a-a-an-ta-an ša-ku-wa-an-ta-an nu ZI.KA mi-i-ē-es-du e-ku-ma GEŠTIN-an*

The word /ayantan/ has been elucidated by Hoffner (1974 s.v.) as a participle to a verb **ay-* "become warm," while Ehelolf here speculates on "eine Grundbedeutung „kalt, kühl“ for *šakuwantan*. Before we attempt to comment on the passage, we have one more text to consider (*The Ritual of Anniwiyaniš* [Sturtevant 1935:114 and 125]):

- (3.37) *an-da-kān e-ḫu* ^DKAL ^{KUŠ}*kur-ša-aš* Come in, ^DKAL of the shield.
 (3.38) *nu-un-na-aš-ša-an an-da mi-i-e-eš* Become benign to us within.
 (3.39) *nu-un-na-aš-ša-an an-da tal-li-i-* Become petitionable to us within.
 e-eš
 (3.40) *kar-pi-in-na kar-tim-mi-ya-at-ta-* Anger, hate, fury put
 an (3.41) *ša-a-u-wa-ar ar-ḫa tar-* away!
 na.

The translation is based on Sturtevant's translation and commentary, with "benign || petitionable" substituted for his "gentle || propitious." When the verb or the abstract concerns behaviour of a deity there is really never any question that it refers to "benignity." What has made the root the subject of so much debate is that it is applied to embassies, rain, cream (butter), and bread too. This leads Götze to "flow, teem/about with," and Ehelolf to "soft, smooth, gentle, mild" ("or the like," to add Sturtevant's [1936 s.v.] caveat). Götze's "Segen" for the abstract makes good sense, but his determination of a basic root meaning is a counsel of desperation. Ehelolf's basic meaning comes

more reasonably within suitable proximity of what the referents require as an attribute. His "angenehme Botschaft ?" is mark-hitting; yet his choosing, from his three-item semantic continuum, for the three times that he translates *miu-/miyeš-*, "glatt(?)" rather than "lind" is another indication of the general perplexity felt by the scholars in response to the broad-spectrum applicability of the root (specifically the adj.). Our own approach will be to find the *only* common denominator between 1) a. the behaviour that the petitioner implores the deity for, b. what the sender and the recipient hope the outcome of a *Bot-schaft* will be, and 2) the essential characteristic unifying butter, bread, and rain. We start with the last named, for here Götze's patient waiting for further material has been fulfilled, not from a quarter that he would have expected it, but rather from a new analysis of some passages with the root *rḥm* in the Hebrew Bible. Rendsburg (Forthcoming b), building on discoveries of Dahood "that Hebrew *ṭōb* may occasionally have the meaning 'rain' as well as its usual meaning 'good'," and that in one Ugaritic verse, *ṭbn* signifies "rain," and the work of Kaufman and of Johnstone "that in some South Arabic and Arabic dialects, *raḥmat*, 'mercy', also means 'rain'," builds a cogent case that the Hebrew *רחם* "in its various forms, may also signify 'rain' at times. That is to say that, *rḥm*, 'pity' > 'rain', exhibits the same semantic development as *ṭōb*, 'good' > 'rain'." Rendsburg demonstrates that this meaning of *rḥm* was still recognized by commentators as late as the 11th and 12th centuries C.E. He cites a quote from one of these commentators, which has the same ring as our Biblical "gloss-quotes" (e.g., מִמָּרָא קִרִּית אֲרֵבֶּ, הוּא חֲבֵרוֹן): "*raḥāmīm* ... which are rains" רַחֲמִים ... אֵלּוּ גֶשְׁמִים ... Herein lies the further material for a more precise determination that Götze looked forward to: rain, bread, butter/cream (and other items to be discussed shortly) are *the results of and manifestations of divine benignity*. (1) Hittite *miu-* : *miyeš-*, Slavic *milovati* "be benign, merciful, love" = Hebrew *rḥm* "rain" : *rḥm* "love, show mercy." Abraham is God's *mil-* in Balto-Slavic, His *rḥym* in the Targumim. Rain is *rḥm* in Hebrew and *miu-* is applied to rain in Hittite. (2) Hittite *miumi-*, Glossekenilsprache *miu-* : *miyeš-*, *milovati* = Gk. ἄρτος "bread" : ἄριστος, and ὁρτύν "φύλλαν" (section Vb).

The worst of times is when dM^{t} prevails and bread lacks in the Land. The $\text{\AA}\rho\iota\sigma\tau\omicron\varsigma$ of times is when God displays His benignity and thereby $\text{\AA}\rho\tau\omicron\varsigma$ abounds in the Land. Such lack of famine is not a manifestation of or consequence of divine benignity; it is a simple equational conception: Bread (rain, etc.) *is* benignity, indeed *is* God.

- (3) Phrygian $\beta\epsilon\kappa(\chi)\omicron\varsigma$ "bread" : Skt. *bhājati* "teilt zu," *bhāga-* "Gut, Glück" and "Zuteiler, Herr" = Hittite *mīumiu-*, Glosseilsprache *mīu-* : *mīyes-* etc.

Herodotos, Book II.2.4

ἀκούσας δὲ καὶ αὐτὸς ὁ
Ψαμμήτιχος ἐπυνθάνετο
οἷτινες ἀνθρώπων βεκός τι
καλέουσι, πυνθάνμενος δὲ
εὔρισκε φρύγας καλέοντας
τὸν ἄρτον.

When Psammetikhos himself had
heard the tale, he made inquiry
as to what folk amongst mankind
call something *bekós*; as a result
of his inquiring, he ascertained
that Phrygians call "bread" thusly.

(other codices read $\beta\acute{\epsilon}\kappa\kappa\omicron\varsigma$)

The root is IE **bhag-* "zuteilen"; the Phrygian word shows the expected Lautverschiebung (media asp. > media; media > tenuis). Pokorny defines the root as "zuteilen; als Anteil bestimmen oder (ursprüngl. medial?) als Anteil, als Portion erhalten." Besides the cognates in Skt. mentioned above (where the double duty of *bhaga-* as both epithet/name of several gods, and as a common noun "good fortune, happiness, welfare, prosperity" is striking), the following cognates should be noted: Avest. *baga-* / *baγa-* (nt.) "Anteil, Los, bes. günstiges"; Avest. *baγa-*, OP *baga-* "Herr, Gott"; Mitannian place name *Bagarriti* "Segensstrom," god name *Bagbartu* "Segenspenderin"; Skt. *bhaktām* "Mahlzeit," *bhaksati* "genießt, verzehrt"; Avest. *barsaiti* "hat/gibt Anteil" (esp. "jmdm. [Dat.] etwas [Akk.] schenken"); Gk. $\phi\alpha\gamma\epsilon\upsilon$ "essen"; Slavic *bogъ* "God" (Iranian loanword?) and *ubogъ*, *ne-bogъ* "arm" (borrowed in Lith. *nabāgas* "Armer, Bedauernswerter" and in Latv. dialects *nabags*, *nabugs* "Armer, Bettler, arm"; its greatest career, however, has been in Yiddish *nebekh* "unfortunate, wretch, [adv. "pity"]; cf. the discussion in Weinreich, 1980:542-3). The English *baksheesh* is borrowed from the Mod. Pers. word derived from this "zuteilen" root.

(Cf. Pokorny, Reichelt, Monier-Williams, Fraenkel). A fragment of Hipponax provides us with an involuntary *figura etymologica*, with Gk. $\phi\alpha\gamma\epsilon\upsilon$ and Phrygian $\beta\epsilon\kappa\omicron\varsigma$ juxtaposed: $\kappa\upsilon\pi\rho\lambda\omega\upsilon\omicron\varsigma$ $\beta\epsilon\kappa\omicron\varsigma$ $\phi\alpha\gamma\omicron\upsilon\sigma\iota$ $\kappa\alpha\mu\alpha\theta\omicron\upsilon\sigma\iota\omega\upsilon\varsigma$ $\pi\upsilon\rho\omicron\upsilon$ "they eat the bread of Cyprian women and the wheat of boorish women (?)" (How & Wells, 1912: 156). Phrygian $\beta\acute{\alpha}\mu\chi\omicron\varsigma$ "dVINUM" is but another application of this "dispenser/God/good things/food" root.

- (4) Heb. מֶלַח , Arab. ملح /milḥ/, Ug. *młḥt* "salt" : Ug. *młḥ*, Arab. ملح /malīḥ/ "good" = Gk. $\text{\AA}\rho\tau\omicron\varsigma$: $\text{\AA}\rho\iota\sigma\tau\omicron\varsigma$. (Gordon 1965 s.v.).

(5) a. Latin *dives* "wealth" (noun), "wealthy" (adj.) : *deus* "god," *divinus* (adj.) = IE **bhago*- "prosperity" : **bhago*- "god." Varro (*De Lingua Latina* 5,92) conceptualized the relation as *dives a divo qui, ut deus, nihil indigere videtur* "[one is called] rich from [the word] 'deus' when, as a god, he seems to want for nothing." To which Ernout-Meillet (s.v.) add: "Les dieux indo-européens étaient distributeurs de richesses (hom. $\delta\omicron\tau\eta\rho\epsilon\varsigma$ $\epsilon\acute{\alpha}\omega\nu$), donnant en partage...." The root of this Latin set is IE **dei*- "shine," which, in its form extended with a -w- suffix, bifurcates into **dēy-wo*- (thematic) "god" and **dyēw-/diwō*- (athematic) "heaven" (prominent in the collocation **dyēus-pētēr* "Heaven-Father").

b. Germanic **tīþla*- (e.g., German *Zeidel*-) "honey-" (< IE **dey-tlo*-) : IE **dēy-wo*- "god" = Hittite *miu*-, the characteristic epithet of rain, butter, bread, : *miyeš*- "be benign" (=, likewise, all the other Gk., Semitic, Phrygian, Skt., and Latin proportions cited above).

c. Gk. $\epsilon\acute{\upsilon}\delta\acute{\upsilon}(F)\alpha$ "fair weather" (opposite of $\chi\epsilon\iota\mu\acute{\omega}\nu$ "wintry/stormy/ rainy weather") : $\text{Ze}\acute{\upsilon}\varsigma/\Delta\iota(F)\acute{\omicron}\varsigma$ = OCS дъждь "rain" (< IE **dus-dyus* "bad heaven [/god]"): IE **dyew*- "heaven (/god)"; This Graeco-Slavic isogloss (with benignity = lack of rain and malignity = [over-]abundance of the same) does not reflect a divergent attitudinal view of clement weather being (the expression of) divine benignity, a view that would contradict the Hebrew and Hittite "rain" noun and epithet; rather it needs must express but different climactic conditions that these folks lived under, and consequently what was a blessing to the Hebrews and Hittites, to the Greeks and the Slavs was a bane.

The same Weltanschauung appears in Horace's *Carmen* l.xxii.17-

<p>22: <i>Pone me pigris ubi nulla campis arbor aestiva recreatur aura, quod latus mundi nebulae malusque Iuppiter urget; pone sub curru nimium propinqui solis, in terra domibus negata:</i></p>	<p>Even should you put me in unfruitful fields where no tree is refreshed by an aestival breeze, that side of the Earth where clouds and malign Heaven- Father gush [the extreme north]; Even should you put me too nigh to the Chariot of dSOL, in a land barren of habitation [the extreme south]....</p>
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*The emotion is stereotypical
Horatian; all extremes (too
much rain, too much sun, too
much anything) is bad, malign,
a product of dMALUS .*

[The author gratefully acknowledges all the references in 5c. to a classroom handout of Prof. Kerns ל"י "What are the Antecedents of the Baltic Thunder-God, Lith. *Perkūnas* ('He-of-the-Oak-Tree')?"; May 8, 1965]

d. A Cypriot inscription refers to a deity $\epsilon\acute{\upsilon}\delta\acute{\upsilon}\alpha$ "The Mild/Gracious/Benign One"; $\epsilon\acute{\upsilon}\delta\acute{\upsilon}\alpha$ is employed metaphorically for "tranquillity/peace," while $\chi\epsilon\iota\mu\acute{\omega}\nu$ is so employed for "trouble/calamity": *Prometheus Bound* 643 $\theta\epsilon\acute{\omicron}\delta\acute{\omicron}\varsigma\sigma\upsilon\tau\omicron\varsigma$ $\chi\epsilon\iota\mu\acute{\omega}\nu$ "a god-sent calamity" and Alexis Comicus 178.7 $\chi\epsilon\iota\mu\acute{\omega}\nu$ $\acute{\omicron}$ $\mu\epsilon\lambda\omicron\rho\alpha\kappa\iota\varsigma\kappa\omicron\varsigma$ $\epsilon\sigma\tau\iota$

τοὺς φίλους "the kid's a bummer to his buddies."

- (6) Gk. μέλι "honey" : μᾶλλον "more" =
 Lat. *mel* "honey" : *melior* "better" =
 Gk. ἄρτος "bread" : ἄριστος "best" =
 Lat. *ops* "wealth, riches" : *optimus* "best."

Significant cognates to the last set are: *copia* "wealth, prosperity, multitude, ability," *opulentus* "rich, wealthy," and *Ops*, patroness of husbandry; Skt. *āpnas-* "Ertrag, Habe, Besitz"; Avest. *afnah-vant* "reich an Besitz"; the Hittite set of words *ḫappin-* "reich," *ḫappinahh-* "reich machen," *ḫappinēš-* "reich werden," *ḫappira-* "Stadt" (originally "market/trading-center"), *ḫappar* "Kaufpreis, Handel" (see Tischler s. *vocibus* and Puhvel's [1979:56-57] harsh criticism of Tischler contra Hoffner re a derivative of this group); Old Irish *somme* (< **su-op-smyo-*) "rich," *domne* (< **dus-op-smyo-*) "poor"; Gk. ὄμνη "food, bread-corn," pl. "sacrificial cakes of meal and honey," ὀμνη "She of food/corn (American 'wheat')," an epithet of Demeter. The root is IE **H₃ep-* /*γep-* "riches, wealth, the good things of life, food, prosperity and all that Heaven can bless/endow/provide the petitioner/worshipper with." We shall have occasion to return to this Hittite set in section XVI.

The IE noun **méli-t/melnēs* "honey" is but a substantivization of the root seen in the Greek and Latin comparatives, "more" and "better." Formally it belongs to the same heteroclitic class as e.g., Skt. *āsthi/asthnās* (Benveniste 1935:7), with one critical and precious divergence: it existed in two alternate forms, without and with the vacuous -t deictic (see Arbeitman 1976 and 1980c and pp. 957-58 above for our analysis of the phenomenon) in the nom./acc. (at first). Gothic *mīlþ* and Albanian *mjaltë* represent thematizations of the noun, thematizations which (contrary to the examples presented in 1980c: 227) incorporate the deictic (the Goth. and Alb. words both reconstruct to a thematic neuter **melitom*). Hittite has lexicalized the deictic -t (cf. 1980c:229) not only in the noun "honey" *milit*, but has incorporated it into the very root, as may be seen from the adj. "sweet" *milittu* (|| *miu*) and the verb "be sweet" *militēš-* (|| *miyēš-*), cited p.970 in the quote from Ehelolf. In Gk. we expect to see it in the oblique cases (in spite of its not being "proper" there); but, like Hittite, Gk. has incorporated the deictic into the root, as we can observe from the derivative **mélit-ja* (μέλισσα, /*melisa*/; μέλιττα /*melica*/) "She of the Honey," an epithetical substitution for "bee" reminiscent of the Russian substitution (usually attributed to taboo) for the inherited IE "bear" word: медведь (from IE **medhu* [the alternate "honey" word] + **ed-*, thus "Honey-Eater").

The possibility is open for discussion that the IE *glāk-t glaktós* "milk," set up for Gk. and Lat. alone (Pokorny p.400),

is of unitary origin with Germanic e.g., Goth. *miluks* "milk," and there are idiosyncratic survivals in the various daughter tongues of a proto-noun that began at some hoary stage of IE with a gutturalized nasal (or a prenasalized guttural): $*^mg_lk-t$. The root would have been originally an allophonic variant of our above-discussed $*mel-$ "good, abundance, etc.," and the initial phoneme would have been phonetically [ŋg] (for the type of phone in question, cf. Greenberg 1958 and 1965, where he discusses Afro-Asiatic remnants of labialized nasals or prenasalized labials). This root of ours $*^m(g)el-$ existed in a form with a $-k$ *élargissement* (cf. Benveniste 1935:148), which came to be used as the "milk" root (in alternate forms, without and with the vacuous deictic $-t$). To continue the construct: IE $*^mg_lk-t$ trifurcated as follows:

$\begin{array}{ccccccc} & & & & *^mg_lk-t & & \\ & \swarrow & \leftarrow & \nwarrow & \downarrow & \rightarrow & \searrow \\ \text{Germanic } miluks & & & \text{Gk. } \gamma α λ α κ τ - & & & \text{Lat. } lact- \end{array}$

The Germanic non-Verschiebung of the final guttural is readily understandable in terms of Pokorny's conceptualization of the final $-k/-g$ alternation within Greek itself (Pokorny p.400). The fact of the Germanic noun's being f. (consonant class; see Krause 1968:170) vs. the nt. of Greek and Latin is of one cloth with the Germanic noun for "liver" $*liβrō$ and its Armenian cognate *leard* having been feminized from what was originally an epithet to a neuter noun (Arbeitman 1980c:230). In reference to this set of "milk" words, the comments, presumably of Watkins, in *Am. Her. Dict. Appendix s. melg-* should be alluded to, where the kinship is conceived, but no attempt at any process attempted. The solutions to problematic survivals (with the peculiarities inherent in such items) has been shown us by a great woman of extraordinary brilliance, the polymath to whose memory we had the privilege of dedicating our first article on the vacuous deictic (Arbeitman 1976), (F)ᾱδυ φῶνεια καὶ γέλαισα ἰμέροεν Irene Garbell, who wrote (1958:303): "The forming of a language is a continuous process, albeit a slow one, and any given stage thereof necessarily reflects, besides the overall patterns of the present, several remains of the past, as well as indications of possible trends of development in the future." The same kind of rational approach to etymological reconstruction is expressed by Meillet (1964:28-30): "Une innovation phonétique résulte la plupart du temps de la coïncidence de plusieurs actions distinctes et indépendantes; il arrive que les actions soient assez complexes pour être particulières à un mot. ... Plus on examine les choses de près, et plus on voit que *presque chaque mot a son histoire propre*. ... Il y a eu ainsi des changements phonétiques inconnus et qui resteront inconnu, même dans des langues bien étudiées, pour peu que, comme c'est ordinairement le cas, on n'ait pas une série continue de documents." Alas, the greater part of etymology practiced today is mechanistic and procrustean (those

few who do *practice* the principles of Meillet and Garbell 𐎶𐎵 are notable by their exceptionality in their respect for the "personality" and "individuality" of the given lexical "being." A refulgent example of this class of linguists in our day is Jaan Puhvel, by whose work we have been greatly influenced).

If the (Watkins-)Arbeitman etymology for IE "milk" be valid, we then have another confirmatory proportion to add to the semantically cognate sets given above: IE "milk": "good, etc." = Hittite *miu*, epithet of cream/butter, : *miyeš-*, etc.

- (7) Gk. *μαλλός* "flock of wool" (< **malnos* ?) : IE √**mel-* "good, much, abundance" (from which the Gk. and Lat. comparatives, cited in 6. above, and also Lat. *multus*) = IE √**wǵ-nā* "wool" (Lat. *lāna*, Eng. *wool*, Gk. *Φλᾶνος* [-s stem]) : IE √**wel-* "wish, desire, choice, excellent" (e.g., Skt. *vṛtā-* "gewählt, erwünscht," *vāra-* "Wunsch, Gegenstand des Wunsches," *vara-* "vorzüglich, besser," *varya-* "wählbar, vortrefflich, ausgezeichnet," *vāra-* "Kostbares, Schatz"). Cognate to the Gk. *μαλλός* are several Baltic words for wollen products: Lith. *mīlas* "grober, selbstgewebter Wollstoff," Latvian *mīls* "wollenes Gewebe," *mīlna* "Gewand, Tuch," O.Prussian *mīlan* "Gewand" (Fraenkel s.v.). Our Skt. items are selected from Pokorny's 2.*wel-*, where the Germ. translations "wähl-" are (delightfully) from the IE root in question; yet we assume that there is no need to emphasize that we do not follow Pokorny's practice in separating the two sets of "wool" words as roots distinct from basic verbal roots, thus setting them up as isolated speech items without connection to any concept.

Gk. *μᾶλον* (< **mǵ-Hom?*), Attic *μήλον*, "apple" (or any tree fruit, able to be specified by various adjectives of origin of the fruit in question) is likely to have been originally but an epithet "good, excellent, etc.," which replaced whatever was the inherited "apple" word.

The concepts of what foods were named after, which we have been presenting, is not a figment of the modern scientist's *Drang nach Anordnung*; it is not with Prokrustes that we are in league; rather it is the Classical author most renowned for his common sense and his knowledge of agriculture who is our companion. Let us see what Hesiod tells us about foods (*Works and Days*, in a passage where he describes foods, fertility, and peace as the benignity of the gods to those who act with justice to their fellows: ll. 225-37):

Οὐ δὲ δίκας ξείνοισι καὶ ἐνδῆμοισι διδοῦσιν
 ἰθείας καὶ μή τι παρεκβαίνουσι δικάου,
 τοῖσι τέθλε πόλις, λαοὶ δ' ἀνθεῦσιν ἐν αὐτῇ.
 εἰρήνη δ' ἀνὰ γῆν κουροτρόφος, οὐδέ ποτ' αὐτοῖς
 ἀργαλέον πόλεμον τεκμαίρεται εὐρύοπα Ζεὺς.
 οὐδέ ποτ' ἰθυόλκῃσι μετ' ἀνδράσι λιμὸς ὀπηδεῖ
 οὐδ' ἄτη, θαλῆς δὲ μεμηλότα ἔργα νέμονται.

τοῦσι φέρει μὲν γαῖα πολὺν βίον οὔρεσι δὲ δρύς
 ἄκρη μὲν τε φέρει βαλάνους, μέσση δὲ μελίσσας·
 εἰροπόδοι δ' ὄιες μαλλοῦς καταβεβούθασιν·
 τίκτουσιν δὲ γυναικες ἐοικότα τέκνα γονεῦσιν·
 θάλλουσιν δ' ἀγαθοῦσι διαμπερές· οὐδ' ἐπὶ νηῶν
 νύσσονται, καρπὸν δὲ φέρει ζείδωρος ἄρουρα.

But such as give judgments that are straight, to strangers ["the not-us, the resident aliens, the *gērīm*, the guest-friend"] and to their own people, and who do not turn astray from Righteousness, for these the city is bountiful and its folk flowers. Child-nurturing ^dPax is up and down the land and all-seeing Zeus at no time lets ^dBellona The Baleful have any sway over them. Such straight-judging men are at no time attended by ^dFames nor ^dAtē [who deludes men's minds to judge perversely]; rather with great abundance they reap the fruits of their labour. The Earth yields them munificent sustenance, and on the mountains the Oak yields, at its top, acorns; at its mid, bees. Their fleecy sheep abound with flocks of wool and their wives bring forth offspring fitting to such parents. The are copiously endowed with boons continuously. Thus they have no need to go abroad [to find sustenance], for the Land, who bestows grain, yields their fruit.

It should not surprise us if in the stock formula μεμῆλοτα ἔργα "the work which is their concern," the poet is taking polysemic delight in the word's homonymy with both μῆλον¹ "sheep" (which alone is attested in *Works and Days*) and μῆλον² "apple." The verb we translated as "attend" (ὀπηρεῖ) was associated by Sturtevant (1933) with Hittite *ḫapatis* "attendant, squire"; on pp. 93, 142, 146 he states the words to derive from a prefix **ho-* + a verbal root, possibly that contained in Gk. *πηδᾶω* (having abandoned his former connection with *paizzi*). It is thus very difficult to understand how Tischler (s.v.) can write that Sturtevant in this book connected the Gk. and Hittite words as "Wanderwort aus einer westsemitischen Sprache." We do see the proffering of a Sem. borrowing by Sapir, as stated by Tischler. The implication by Tischler that Kerns & Schwartz proposed such a borrowing is, once again, a distortion. What they said (1940:189, fn. 26) is that the Indo-Hittite and the Semitic words "must go back to a common ancestor" (which is a "Nostratic" implication rather than a loan view approbation). Our rendering of the words of banes and boons is not an invention on our part (nor on Father Dahood's part, cf. fn. 26 above); these personifications of "war, peace, famine, etc." exist in both Homer and Vergil *inter alios*. Gk. *μᾶλον* ousted the native Latin "apple" word (preserved for us in the [gloss] epithet that Vergil applies to a toponym: *mali-ferae ... moenia Abellae* "the town of apple-bearing Abellae." So "appropriate" an epithet we do not ascribe to chance; it serves the same function as e.g., the mediaeval gloss, cited by Rendsburg [p. 972 above]). Ernout-Meillet (s.v.) write that

the indigenous Latin word "a été remplacé en Italie par un nom méditerranéen, designant sans doute un fruit amélioré, lat. *mālum*" (it need not cause any surprise if we inform the reader that the emphasis is ours!).

- (8) The general nexus between prosperity/riches/good things and God, and more specifically the proportions presented in 3. and 5. above, receives additional support from Hittite (root support for 5., semantic support for 3). Laroche (1969:174) writes: "L'adjectif hittite *asiwant-* 'pauvre' n'est probablement, comme on l'a reconnu récemment (G. Jucquois, RHA 74 [1964] 87 sq., et O. Szemerényi, *Kratylos* XI [1966] 218, n.44), qu'un composé négatif en *a-* (issu de *u-*) de *siwa-nt-*, et signifie 'qui est sans dieu' (...). Le vieux-slave exprime la même notion par les mêmes moyens [our "semantic cognate"]: *ubogŭ*, *nebogŭ*; on connaît en grec un emploi isolé de ἄθεος au sens de 'abandonné des dieux' (Sophocle, *Oedipe Roi* 661)." The surrounding context of words and concepts (blight and plague/divine malignity) demands our quoting lines 660-67:
- OI. εἴ νῦν ἐπίστω, ταῦθ' ὅταν ζητῆς, ἐμοῖ
ζητῶν ὀλεθρον ἢ φυγῆν ἐκ τῆσδε γῆς.
- XO. οὐ τὸν πάντων θεῶν θεὸν πρόμον
"Ἄλιον· ἐπεὶ ἄθεος ἄφελος ὃ τι πύματον
ὀλοῦμαν, φρόνησιν εἰ τάνδ' ἔχω.
ἀλλὰ μοι δυσμόρῳ γὰ φθίνουσα
τρύχει ψυχάν, τὰ δ' εἰ κατοῦς κακὰ
προσάψει τοῦς πάλαι τὰ πρὸς σφῶν.
- OE. You had better catch on: by seeking [out] these matters, for me you are seeking destruction or exile from this Land.
- CHO. No, by the Foremost God of all Gods,
Helios; in the worst possible way: Godforsaken, friendforsaken may I be destroyed, if I harbour this thought.
Yet the Earth withering eats away my spirit, doomed!
but if these banes shall join the banes from before, these in addition to those two! [The two former banes referred to are blight and pestilence. Jebb {1885:9} comments: "The anger of Heaven is shown (1) by a blight (φθίνουσα) on the fruits ..., on flocks and on child-birth: (2) by a pestilence (λοιμός) which ravages the town."].
- (9) Puhvel (1980:65-70) has provided an analysis of Anatolian "good" words (and their IE cognates) which forms a "semantic cognate" set to those cited in 5. above. He deals with:
- | | |
|---------------------------------------|------------------------------------|
| HL <i>wasu</i> "well-being, blessing" | CL <i>wasu-</i> "good, well-being" |
| <i>wasara-</i> "goodness" | <i>wasara-hit</i> "favor (of |
| <i>wasara-mu-</i> "make agreeable" | the gods)," an abstract |
| <i>wasā-</i> "be agreeable" (see | which we will return to |
| below). Pal. <i>wasu</i> "well" | below. |
- Glossenkeilsprache < *wass-* (-*hi* conj.), CH *was-* (-*mi* conj.) "be-good."

We have no need for surprise to find that Puhvel's conclusions are far more sensible and cogent than the "standard" etymology which prevails, for the native speaker's *Sprachgefühl* that this man has for Indo-European requires no reiteration on our part. We do need, however, to marvel at the reign of the standard etymology, which is not only one lacking good support, but, inspite of its being the canonical one in our day, seems to have seized its position of power fairly late in the game; for Grassmann (s.v.) in 1872 (!!) stated quite unambiguously: "vásu ... [von 1. vas]"; Grassmann's 1. vās is his "aufleuchten, hell werden, leuchten," while his 3. vās is his "verweilen, übermachten." He defines his entry for the adj. as "licht, herrlich, gut von Göttern und göttlichen Wesen;... gut, fromm von Menschen;... gut, heilsam von Sachen;... m. pl. die Lichten Herrlichen, Guten als Bezeichnung der Götter überhaupt,... oder einer Götterklasse." For the comparative vāsyās he gives in its adj. usage "besser gesinnt;... reicher, glücklicher," in its nom. usage "höchstes Glück oder Heil," in its adv. usage "wohlgesinnt, huldvoll." Inasmuch as the adj. is classed under vas "shine" even in Monier-Williams, we must assume that the "etymology" was no discovery of Grassmann's, but is rather part of the native Indian grammatical root classification tradition. In the usages of the word in the Veda (and in later Skt.), the connection of the adj. with the noun is so transparent that one did not need to be a "modern scientific etymologist" to see it any more than one has to be trained to see a connection in Eng. between e.g., a verb *malign* and an adj. *malignant*. The adj., noun, and adv. are all assigned to the root "to shine" in Macdonell's *Vedic Reader*, where his translation of the adv. as "for greater welfare" is uncannily similar to Puhvel's rendering of the frozen Old Irish dat. sg. *feib*.

The two quotes from Hittite (!) texts that Puhvel gives (containing the verb *waš(š)-*) are most instructive for our purposes: KUB XVII 12 III 13-14 YĀ-ya-wa LĀL mahhan < waššāri

EN.SISKUR-ya-wa-kan ANA DINGIR-LIM QATAMMA waššāru

"and even as oil-honey is-good [a merism with a 3sg. verb; Puhvel's: "oil (and) honey are" misses the merism], so, too shall shall the sacrificer be-good to the deity."

KUB XXIV 7 I 43

YĀ DÜG.GA n-at waštari

"good oil; yes, it is good."

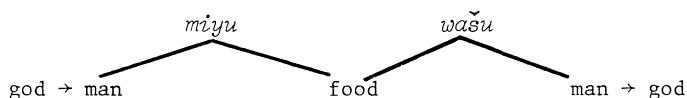
If this looks familiar, it should, for it is almost identical to the quote from Ehelolf on p.970 above, where we have an "Und wie" parallel of LĀL malittu || I.NUN miyu in the "protasis" followed by a "so soll auch" parallel of "the intention of Telepinu being militeš- || miyeš-" in the "apodosis"; here we have an "oil-honey" merism being wašš- in the "protasis" followed by a wish that the sacrificer likewise be wašš-. There the "protasis" consisted of two adjectives, the "apodosis" of two 3sg. imp. statives verbs; here the "protasis" consists of a 3sg.

ind. stative (mid.) verb, the "apodosis" of a 3sg. imp. stative verb. There the "apodosis" expressed the wish that the deity be "sweet and benignant" even as the "honey and cream are so"; here the "apodosis" expresses a wish that the other member of the deity-worshipper moiety, "the sacrificer," be "pleasing (good)" to the deity even as the "oil-honey is so." The *concept* of the two entreaties is one and the same, only offering variations which are due to the vantage point of the moiety-member referred to. The two entreaties have one food item in common (word-for-word) and the other food items involved are but two representatives of the identical victual class (oil/cream); this becomes all the more obvious when we transfer Ehe-*lolf's* sumerogram *l.NUN* into the current system *YÄ.NUN*, whereby we see that the "Rahm/Butter/Dickmilch" (Friedrich s.v.) sumerogram is a compound, the first element of which is the "Fett, Öl" sumerogram.

Not lacking in these ritual entreaties is an element of "sympathetic magic." Cf. the comments of Levy (1948:35) concerning other times and other places: "What is remarkable in the beliefs of comparatively savage races ..., is the spiritual and truly religious conception of a connection originally based upon a need for food, and sufficiently effective to hold the group in social and economic cohesion. It is equally surprising ... that magic, though intrinsically important as a means of action, should be only an instrument of mutual creation (Magic may be defined as the imposition of non-physical power to obtain a specified end. Religion is the maintenance of abiding relationship.)."

Such Hittite rituals display for us, better than any etymological speculation could, the maintenance of such "comparatively savage" beliefs, together with the absolute necessity of understanding food epithets and nomenclature against such a *Weltanschauung* background: the relationships, man ↔ god and man → food involve two different Hittite lexical items, which we can employ a cover translation for "pleasantness-and-mutual-dependency"; the "man ↔ man" term par excellence (*ara-*) can also be employed to express the "man ↔ god" relationship (as we shall see in subsection *ay* below). Many of the food terms we have examined imply (at the very least) a food = god equational conception; it is this very same "man ↔ man" root, which we said can also be employed for the "man ↔ god" relationship, that the equational concept reaches its apogee in (for Western/Christian civilization), as we will see before long. (See Postscript.)

Our two different Hittite lexical items can be displayed, as to their areas of overlay/non-overlay, by a diagram:



a. Grammatical Observations on the Luwoid Verb *wass(a)-*

Puhvel's HL *wasā-* is actually attested only in the iterative stem (there is only one sure occurrence of the verb at all): Bulgarmaden 2 *ā-wa-ta ā-mi-i* DOMINUS-*ni-i* *wa/i-ra/i-pa-la-wa/i-ya-ā* REX-*ti-i* 'BONUS'-*wa/i-sā-sa-ha* "to my lord, Warpalawas, the king, I was continuously pleasing." The subject thus stands in the same position to his lord, the king, as does the sacrificer to his deity in the Glossenkeil passage cited by Puhvel. Such information tells us a great deal about a lexical item's meaning. No dictionary entries are suitable candidates for semantic (let alone etymological) comparison of any sort; only context entries. The HL verb is thus identical to the Glossenkeil verb in meaning and form except for its giving every appearance of being a thematic stem (which serves as the base to which the iterative suffix is added); cf. Arbeitman, 1973:102 for the extremes that a procrustean preconceived notion concerning the non-existence of thematic stems in Anatolian has led some colleagues to. For the analysis of the HL iterative suffix, particularly in this verb, cf. Hawkins, Morpurgo-Davies, & Neumann, 1973:42-44. The single alleged occurrence of the non-iterative, and thus the only other attestation of the verb in HL at all (Laroche, 1960:88) is simply not utilizable at all (cf. the comments of Meriggi, 1975: 320).

< *wāššāri* (ind.) and *wāššāru* (imp.) are 3sg. medio-passives (functionally statives) of the *-hi* conjugation, while the non-Glossenkeil passage cited by Puhvel presents a *-mi* conj. form: *wāštari* (ind.). Inasmuch as the HL (thematic) verbal root *wasā-* is so totally of one *situational and contextual* cloth with the the Glossenkeil verb (and the non-Glossenkeil [Hittite?]), it is disheartening to see Laroche (1959:109 and 142) enter the "CL" (Glossenkeil) root as *wāšsar-* with the consequence that he is constrained to parse *wāšš^{ar}āru* as "dissimilé de *wāššarari* ...; < *wāššararu*." It is no less disheartening to read Friedrich's (1960:108) dictum: "Der Unterschied zwischen *mi-* und *hi-*Konjugation ist im Mediopassiv so gut wie ohne Bedeutung...." When we stop to cursorily examine the paradigmata which he presents immediately below this statement, we see at once that almost all the 3sg. medio-passives that have *-ari* in the pres. ind., also have *-aru* in the imperative, and *-at* in the pret; thus in the 3sg., at least, there is a consistent pattern (the plurals all show *-mi* conjugation). We have endeavoured to reproduce the macronizations as each scholar gives them. The single (pseudo-)distinction of the HL verb from the Glossenkeil (and the Hittite [?]) lies in the fact of the former not being a medio-passive (from a formal perspective); but this is practically irrelevant inasmuch as this category had, for all intents and purposes, disappeared in HL, leaving only a few 3sg. petrifacts (cf. Meriggi, 1966: 63).

BONUS_{wa-sa₅+ra/i-ti-i pa-ti-i-à} ANNUS_{u-si-i} AEDIFICARE+M[I-h]a
wasara-ti pati usi tamaha
(in accordance-)with the 'goodness' [due from husband to the
dear/{beloved} wife], in that year I built."

The word preceeding *har(a)sataninzi* is, once again, that very characteristic Luwoid sentence element, an adj. of appurtenance: *hilar-isi-nzi* "of a/provided-with a gate, gated," and, therefore, the combination of the demonstrative, adj., and noun (all three in case accord) means "these gated dwellings." As was the case in our first *locus* (last page), the relevant plate is missing, and this has created some problems inasmuch as (again) the signs that are represented in Laroche (1960:129) and Meriggi (1962:213 and 1967:68) conflict; in the case of this adj. of appurtenance, a grammatical question is involved in adopting one or the other readings: the stem of the noun "gate" is an *a*-stem *hilara-* (on this Laroche and Meriggi agree), which should form its adj. of appurtenance (so-called "gen. adj.") by a suffix *-asi-* (H/M-D/N, p.27ff.), yet Meriggi is so definite on the sign here vs. the sign in the noun (in both his books) that, in want of the plate, we find it easier to assume that Laroche's *-na-* (= H/M-D/N *-na-*) is merely an oversight for *-nā-* (= H/M-D/N *-ni-*). The discovery of the actual word behind the logogram FEMINA-*ti-i* is the result of a 13 p. study devoted to this word by Starke (1980: 74ff.). No Luwiophile can fail to be in Starke's debt for uncovering the Luwian word (so heart-breakingly multitudinous Anatolian words are lost to us by the blasted writing practices of both the cuneiform and the hieroglyphic scribes). Starke's methodology is worthy of only admiration and emulation; to paraphrase a bit of Hebrew wisdom: "He who saves a single word is as though he saved the entire language," and, in the case of Luwian, we may add "as though he saved an entire language family (IE)," for all basis for future advance in a new reconstruction of IE will proceed, in large measure, from accelerating knowledge of Luwian, as the editors of *KZ* seem to be recognizing in their allocating, in the last few vols., their pages 50% to Luwian and 50% to the rest of IE. We may note that in the two words which surround *unati*, *wasami* (p.p. "be object of 'good'") and *wasara-ti* (instr. "with the 'goodness'"), we have a type of *figura etymologica* with that root which has been the object of our study; the *figura* rather than being a mere "literary device" or an accident, provides us with vital informational data: the same root is used both for the "dispenser" of the benignity and for the "recipient" of the benignity. Our first (fragmentary) *locus* used the root for divine benignity; the second used it for the benignity of the worshipper (to the diety): "piety." In our present passage, the same instr. is used again as "piety" (in the Vergilian sense of *pietas*): thus, God → man, man → God, man → (wo)man. For the word behind the logogram AEDIFICARE+MI see Hawkins (1971:116). Formed to the noun *wasara-*, there is a *denominative*: *wasara-nu* (a "causative" with suffix *-nu*); Karkamiš A 6.7:

wa/i-ta ta-ni-mi REX-ti mī-ta₄-ti-i-zi ā-ta ^{BONUS}*wa/i-sa₅+ra/i-nu-ha wa-ta tanami hasuwati mitantintzi anta wasaranuha*
 "I caused the *Untertanen* to be 'good' to every *König*."

For the word behind the logogram REX-*ti* see Starke (1980:77). For our normalization of *mī-ta₄-tī-i-zī* and, concomitantly, our etymological analysis of the word see subsection ay. The comments of Meriggi (1967:25) on this passage cannot fail to contain for us an element of irony, when we look at them now, after having discussed the Puhvel(-Grassmann) analysis for Anat. *wasu*-/Vedic *vāsu*-. Meriggi comments: "La mia vecchia interpretazione del verbo 'illuminai[?]', influenzata dall'idea del Bossert che *waš¹r^ti* fosse 'splendidamente' ..., non regge più da quando si è sempre meglio chiarito che *was(u)*- anche in derivati è 'bene, favore' o sim." Meriggi renders the passage as "e a ogni re i sudditi (?) anche (?) beneficali" and comments "... la interpretazione [del Laroche] HH I p.89 mz. 'et j'ai fait agréer des serviteurs à tous les rois' mi riesce incomprendibile." Actually Laroche's understanding of the passage is mark-hitting; Meriggi's objections e la *sua* interpretazione ci riescono incomprensibili. While it seems that Bossert's idea of the meaning of the instr. noun was based on his interpretation of the logogram BONUS as "una torcia" (Meriggi, *loc. cit.*), nevertheless, the coincidence with the *meaning* of the Vedic and with the etymology for the Anatolian, proffered by Puhvel, is startling.

c. Adverbial *wasu*/*wasuwa* and Deadjectival verb *wasu-wi*

Morpurgo Davies (1979:591 and 598-99) has given several examples which are most illustrative of the semantic range of the root *was*- in HL (in the following we adhere to her transcriptions, though they differ in some details from the system we have used, which itself was based on her memorable seminar). The first passage displays the nature of the symbiotic reciprocity between worshipper and tutelary deity; Bohça, 1-3:

EGO-*mī* [?] *ku+ra/i-ti-sā* ... |*wa/i-ta* | (DEUS)TONITRUS-*hu-ti*
 | *za-ri+i* | (BONUS)*wa/i-su-wa/i-i* |*wa/i-mu* | TERRA-REL+*ra/i-zī*
 | SUPER+*ra/i* | "CAPERE"(-)*lā/i/u-na-* | *pi-pa-sa-i*

"I (am) Kurtis ... (ii) Here I-am-good for Tarhunzas, (iii) He grants to me to take over the territories."

wasu-wi is a deadjectival verb and, thus, not the root verb, to which we saw the iterative *wasu-za-ha* (p.983). The other two examples display the adverbial use of *wasu* (sg. and pl.) in the idiom *wasu/wasuwa awi*- "come benignly/well-intentioned"; Bolkarmaden (our "Bulgarmaden"), 5:

|*wa/i-ru-ta* |*mu-ti-ia-wa/i-ni-zī* DEUS-*ni-zī* |*wa/i-su-u* | PES--
wa/i-i "for him the Mutian gods shall come benignly."

Çiftlik, rev. 6:

|*wa/i-ta* ¹*tu-wa/i-ti-ia ā-pa-zī-i-ha* DEUS-*ni-i-zī* |*wa/i-su-wa/i* | 'PES'-*wa/i-tu-u* "May those gods too come benignly for Tuwatis."

Let us summarize the results we have obtained from this lengthy consideration of the Luwian *was-*, for inspite of its having seemed to ramble at times, with digressions that may have seemed to be anything but germane to our thesis, quite the contrary is the case: even as Rendsburg's analysis of Heb. *רחם* (and *טון*) as "rain," with which we began our analysis of Hittite *mi(y)-* on p.972, provided the basis for a new understanding of the seemingly irreconcilable applications of the root, so the nuance-refinements that we have been able to derive from the *loci* employing *was-* lay the foundation for our understanding how the abstract *miu-mar* "divine benignity," Götze's "Segen" (see pp.970-72 above) comes to be the third polynym for Qiryat-Arba/Hebron (see pp.966-67 above).

We can now feed additional input to refine the data-diagram on p.982. In Puhvel's *loci* we saw *was-* as (α) an inhaerent attribute of food and (β) an aspired-towards ("optative") attribute of the sacrificer(-worshiper), (stative verbs). In the *locus* on p.983 we saw the root as an attribute of the "petty ruler" to the king, apparently his overlord, (*wasaza-ha* "I-was-continually-'good'"). In the four HL *loci* on pp.984-85 we saw the root as an attribute of (α) the deity, (β) the worshiper-ruler, (γ) the husband (*wasara-ti* "by/with-'goodness'"), and (δ) the *Untertanen* to their respective kings (overlords), (*wasara-nu-ha* "I-caused-to-be-'good'"). In the three *loci* cited in Morpurgo Davies' article (where her concern is with verbal *désinences*) we see the root as (α) a conditional attribute of the worshiper-ruler (*wasu-wi* "[inasmuch as] I-am-'good' ..., [therefore]") and (β) an aspired-towards attribute of the gods (*wasu/wasuwa aw-i* "may they come 'good' [adv.] !"). The 10 *loci* (Morpurgo Davies' last two are of one class) line up as follows:

1. food	theic κατ'ἐξοχήν
2. sacrificer → deity	obsecratorial
3. "petty ruler" → overlord	"feudal"
4. deity (→ worshiper)	theic
5. worshiper-ruler → deity	obsecratorial
6. husband → wife	marital
7. <i>Untertanen</i> → <i>Könige</i>	"feudal"
8. worshiper-ruler → deity	obsecratorial
9. deities → worshiper-ruler	theic

These 9 are further subdivisible into 4 main classifications:

A. theic: 4. and 9. (and 1.)	higher → lower
B. marital: 6.	higher → lower
C. "feudal": 3. and 7.	lower → higher
D. obsecratorial: 2., 5., and 8.	lower → higher

C. and D. share not merely conceptual communality, but the HL words for *Untertanen* and for the worshiper-ruler ("priest-king") are coradical (etymologically) and confrères (semantically); the details will be given in subsection ay.

A. and B. are "higher → lower" in the strict hierarchical terms of A.N.E. relationships; yet "theic benignity" is a two-way street: the deity "is-good" to the worshiper (*wasara-ti* "by-'goodness'" and *wasu/wasuwa aw-i* [on this Luwian verb, formed with the same prefix as Slavic *ubogъ* {pp.973 and 979}, see Arbeitman 1974:72] "come 'good'") and the worshiper "is-good" to the deity (*waššāru* "let him be-'good'," *wasara-ti* "by-'goodness'," and *wasu-wi* "I-am-'good'"). Thus, we see a "(treaty-) relationship" between the two members of the moiety, deity and worshiper, located at some mid point along the suzerainty-to-benignity continuum. The entities involved are something between *Untertan* ↔ *Ober(lehns)herr* and *par* ↔ *par*. In Morpurgo Davies' first *locus*, our (8), the mutual exchange/*quid pro quo* presupposition of the relationship between the "treaty-partners" is made explicit: *Tarhunti ... wasu-wi* "I-am-'good' to Tarhund" : *mu ... pipasai* "he [in turn] gives to me ..." (on this Luwian iterative of Anatolian *ṽpiya-* see Arbeitman, 1976b: 79). In the marital relationship, our (6), we also detect something closer to benignity (and real love) than to despotism, whatever the technical "rules" governing the contract were: he builds *wasara-ti* for his *wasamis* "in-accordance-with 'goodness' for [his wife,] the object of/recipient of his 'goodness'" (it is not at all easy to find a felicitous translation for a "passive participle" to a stative verb; in this p.p.p. we have the root verb, to which we saw the iterative on p.983 [cf. also p. 986]). The element of "loving-mutual dependancy" is present in the relationship between a minor ruler or vassal and his overlord too, both conceptually and in the lexical items used; all this will be elaborated in our discussion from subsection ay through the close of section IX (subsection c). We will (as promised on p.979) return to the CL abstract *waššara-ḫit* at the conclusion of IXa, a point at which it will serve us in good stead.

αβγ. Hittite *māi-* and Latin *mitis*

The meanings of Hittite *māi-* "wachsen, gedeihen, reifen" are not unknown to Latin *mī-tis* (discussed on p.959 above) and its derivatives: Vergil speaks of *mitia poma* and *mitia uva* "apples/grapes ripened-to-sweetness," and D. Magnus Ausonius (ob. 390 C.E.) wrote in his *Idyllia* 8: *mitiget auctumnus, quod maturaverit aestas* "let autumn bring-to-the peak-of-ripeness [total sweetness and mellowness] that which summer shall have ripened." Lat. *mitis* is "mellow, ripe," but also "mild, soft, gentle, tame": *offirmatod animo mitescit metus* "anxiety yields once the mind is become steadfast" (M. Pacuvius, ob. 132 B.C.E.); Cicero speaks of a *mitis et misericors animus* "a kind and merciful spirit." A quote from Horace combines the "yielding/mild" concept with the agricultural connotations of the word: *Nullam, Vare, sacra vite prius severis arborem circa mite solum Tiburis et moenia Catili. Siccis omnia nam dura deus proposuit neque mordaces aliter diffugiunt sollicitudines* "Sow no tree, along the pliant land of Tivoli, Catilus' foundation, ahead of the sacred vine; for to the abstainers God had dispensed all troubles, and gnawing

cares take their leave by no other means" (*Carmen* 1.xviii.1-4). Laroche (1969:174) explains a Hittite word for "small" as a negative derivative, formed with alpha privative (it existed in Hittite too!), of the "ripe" root: "a(m)miyant- 'petit' s'explique aussi comme le négatif en an- (n-) de miyant- 'qui croît, pousse, se développe'." (cf. the quote from the same article on p.979 above). The Hittite verbs *miy-ēš-* and *māi-* are irrefragably specialized derivatives of the same IE root, **mei-* *μονογενής* (for the mutual translatability of Latin *miti-* words by Gk. *πραῦ-* words, and the etymological significance of such data see p.965 above).

We are now in a position to offer a translation of Ehelolf's two passages (pp.970-71 above) that makes suitable sense of the varied applications of the root *miy-*, that was so great a source of bemusement to our predecessors:

- (1) "And as honey is sweet || as cream is benign,
so may Telipinus' spirit be sweet || so may it be benign."
- (2) "He speaks to ^dSOL: 'eat warm, restorative (?), ἀπτόν
Let thy spirit be <pleased/propitiated/good/ἀριστος> [lit. <benign>], Drink wine too!'"

Our intention in employing the Gk. words as our translation medium is self-explanatory in terms of our argumentation on p.972 ff. We would like to consummate this long and pregnant section with the addition of a few items to the Beatles' refrain:

"All you need is love, and rain and bread and butter
and salt and wine."

The defense rests.

ay. The Anatolian Concept of the Ruler as "Friend of God"

Two *loci* provide a sure footing from which to approach both the concept and the etymological ramifications of the concept. The first is the opening line of Karatepe, the second is LLa. The inscription opens with the "author" stating for all and sundry just who he is; he chooses for this self-presentation that "role" which is of paramount significance to his sense of self and his position in the *rerum natura publicarum*: amu.wa.mi Azatiwatas, Tiwatamis zitis || Tarhuntas mitas "I am Aza-tiwatas, devoté of Tiwaz || x of Tarhunz" (cf. Arbeitman 1981b for details, where we concentrated on the left side of the parallelistic titulary). The word mitas is usually rendered "servant" (see further Arbeitman & Ayala, this vol., p.26). This rendering is primarily founded on the basic meaning of the word employed in the Targum Phoenicus: 727. We have emphasized in 1981b that the Targum Phoenicus should be employed *magna cum cautione* for determining denotation, not to speak of connotation, of the HL version of the text. Inasmuch as the phrase stands in parallelism to the left-sided expression, we must start from the premise that mitas is just that: a parallel synonym, another word

for "devoté [of the god]." Beyond this, sound philological principles do not permit us to leap, only to tread cautiously. We must first understand the titular from its own context, and in this case of applying combinatory analysis we are lucky, for both the parallelism of the titular itself, and the personal name of the bearer of this parallelistic titular provide a rare richness of keys for us. Only secondarily can we employ Anatolian and IE etymological cognates and A.N.E. conceptual cognates, accepting their validity only when and if they *confirm* what the combinatory analysis grants us in its largesse.

Let us regress to the personal theophoric *onoma* of this Karatepean ruler, for name and titular both served in those times to express a position vis à vis the deity "borne" in the *onoma*. The first element of the name means "endowed with favor" (Puhvel 1980:69-70). The IE root is **ang-/ *ṇs-* (Puhvel, *loc. cit.*, based on Jucquois). The Hittite cognate *√ass-* (with numerous derivatives, all exceedingly germane to our topic, but which we forbid ourselves to discuss [except where they will be necessary for morphological parallels]) shows a phonetic development different from that of the HL. The course taken by the two languages may be conceived as follows: **ṇsa-/ > Hitt. /asa-/* vel sim., but Pre-Luwian **āza-*, with the nasal conditioning the <z> in the attested form (we see such action of the nasal [and the liquid] in the deictic appendage to nt. nom./acc. sgs. in HL and CL: *-za* only in post-nasal or post-liquid position, *-sa* otherwise; cf. Arbeitman, 1976:146). The attested form <aza> we dare not attempt to phonemicize, the phonological nature of the grapheme(s) for <z> still being a hotly contested point.

Thus, the ruler's theophoric "given name" (what we often refer to in English as one's "Christian name"[!]) attests to his being the object/recipient of Tiwaz' "favour." The left side of the parallelistic titular, Tiwatamis zitis, repeats this attestation of his god-given fittedness for his rule and role: *Dei gratia rex*. Conceptually, the right side of the parallelistic titular, Tarhuntas mitas, offers the same kind of attestation: "object/recipient of Tarhunts' 'favour'." Can there be room for any reasonable degree of doubt as to what this word is functionally, semantically, and even --at this point-- etymologically? Mitas is no "servant" in *our* sense of the word; it is but a continuant or IE **mei-tos* "endowed with benignaty," which comes to be *the* word for "devoté," and esp. for "the special 'agent' of the deity."

Aza-tiwatas and *Tarhuntas mi-tas* express exactly what the Abrahamic titular "Φύλος Θεοῦ, 𐤕𐤓𐤕𐤍, 𐤕𐤓𐤕𐤍" expresses: it is the role of the leader, who in representing his people to God, and conversely, God to his people, occupies a special position in the *rerum natura* of the relationship between the divinity and the folk-flock.

It is pointless to argue whether Azatiwatas means "Loving (act.) Tiwaz" or "Beloved (pass.) of/by Tiwaz." Likewise to attempt to analyze *Ama-deus*, Θεόφιλος, or *Gottlieb* (these three different language forms of the same name were each in turn registered on various official documents by Mozart's father as the child Wolfgang's middle name) in these terms is a sad example of forcing our conceptual and linguistic "set" on a preserved Indo-European archaism: the respective "love" *roots* in HL, Lat., Gk., and German (and also in Slavic *Bogomil* [to be discussed shortly]) are just that: bare root [-diathesis], [-tense], [-person],

and such IE "compounds" preserve a vestige of what was, in all likelihood, a more common type of morphosyntactic patterning in the very earliest periods that the comparative method can reconstruct; but the pattern is reconstructable as having been prominent.

From "devotē[/priest-king]" (< "endowed with favour/benignity [of/by the god]"), the root, let us say (for want of a more precise term), "pejorates" into "*Untertan* [/servant]." The *locus* that we rendered (p. 985 above) as "I caused the *Untertanen* (mit-ant-inzi) to be 'good' ..." contains a participle to a denominative verb, built on this *mi-ta*-stem. Such participles ("act." in IE proper, "pass." in Hitt.) are in origin (and preserved as so in various lexical items) [-diathesis] or [+active], [+passive]. The root *miy-* is still productive and prospering in its primary meaning in HL; Karatepe Lla: *piyantu-ha-wa-tu Tarhunzas ... zasi-ha harnasasi masaninzi Azatiwataya .LONGUS.-ataya haliya miy-ant-inzi-ha usinzi* "May Tarhunz and the gods of this citadel grant to Azatiwatas long days and benign (= 'prosperous') years." Again the Targum Phoenicus betrays the HL in failing to render its nuances. The Targum reads: *לְתַתִּי בַעַל כְּרִנְתִּישׁ וְכָל אֱלֹהֵי קִרְתִּי זָלַזְתִּנִּךְ* "So that Baal KNTRYŠ and all the gods of this city may grant to Azatiwatas length of days and multitude of years." Maybe, we need be kind and say that there is no "real" difference in "meaning"; but, for translation, precisely this is the pitfall: the "view" of the two folks, as expressed in the only medium humans have to concretize their gut feelings about the meaning of all such metaphysical matters as, in our case, what constitutes a life well-lived, diverges: the climactic build up of 'good things (in life)' was expressed in the HL by "long days," followed by "years which are prosperous for the ruler," with all this root *miy-* denoted and connoted for the Anatolians (benignity with the 'goods' of life abounding for the priest-ruler and, hence, for his flock). This *Weltanschauung* was reduced to a banal parallelism in the Ph.: "length-of-days" || "multitude of years"; the Luwian rather than being a banal waste of verbiage, was more of a hendiadys: "a long reign, filled with benignity (from the god to the ruler and the folk, and from the ruler to his subjects)." The Luwoid noun /*harnas*/ "citadel" is present, preceded by the Luwian adj. *hali* "holy,pure," and followed the that most typical of all Luwianisms, the adj. of appurtenance suffix *-ašši-*, in the name of the Carian city of Herodotus' birth: Halikarnassos (*hali+karnas+assa*, with the last element interpreted in Gk. as the nom. them. ending). The form *אלן* will be discussed (contra Marcus & Gelb [1949:119]) in Arbeitman Forthcoming b.

There's a Hittite ritual text (ed. Schwartz, 1947), which while it does not too readily yield its overall sense to us, yet provides some basis for a consideration that a deity can be in the relationship of *ara-* to the king; KUB 29.1.11-13: *LÚ.MEŠ-aš-mi-iš [li-je ki-iš-ta, ga-a-i-na-aš-mi-iš li-e ki-iš-ta, [o ol]-aš-mi-iš a-ra-a-aš-mi-e-eš; 34-35: nu GISDAG-an a-ra-an-ma-an hal-zi-iḫ-hu-[un], Ū-UL-wa LUGAL-wa-aš a-ra-aš-mi-iš zi-ik*. Schwartz renders the first *locus*: "my man become not, my kinsman become not, my ..., my comrade," while Götzle renders it: "Thou must not become my *rival*, thou must not become my in-law. Remain my [equal] (and) my friend!" The second *locus* is rendered by Schwartz: "and I have recited the 'Throne *arammās*.' No friend of mine, of the

king, art thou," by Götze: "I hailed the Throne, my friend (and said): 'Art thou not a friend of me, the king?'" (Götze in *ANET*, p.357). On 1.34 Schwartz comments: "The *halmaswittan aramman* recited by the king must be the first two words of a hymn or prayer connected with the coronation ceremonies." What is important is that whether we take this collocation to be the opening words (and hence the title) of a hymn to the Throne deity *pace* Schwartz or as the theonym followed by "my friend" in apposition, the collocation remains only one thing: the accusative of the theonym (*halmaswitt-an*) followed by the accusative of a word expressing the deity's relation to the monarch (*aran+man*) and that it is only a few words after this that we see the nominative (*araš+miš*), where we have a very explicit statement of just exactly to whom this deity is "supposed" to be a friend: LUGAL-*wa-aš a-ra-aš-mi-iš* (*hasuwas aras-mis*) "a friend of me, the king (!)"; in the Schwartz interpretation, we have a bitterly ironic declamation: "here I am reciting a religious statement of HOW THINGS WORK IN ACCORDANCE WITH THE RULES OF THE GAME, but it's not going right, (it's *natta āra* [see p.908 above] 'we Hittites [men and gods] just don't behave like that'); you're SUPPOSED to be the king's friend, but you ain't!" One final observation: it's hard to understand where Götze (in the first *locus*) is able to squeeze a meaning "rival" from either the lexical item (*antuḫsas*) or from the immediate parallel word (*kaenas*). The latter certainly means "kinsman," while the former, lit. "man" (for the use of LÚ.MEŠ for a sg. see the remarks of Friedrich [1971:110-11]), is likely being used as "one's man, a person one expects personal loyalty from."

The Slavic name Bogomil "Θεόφιλος, Friend-of-God" was the given name of the heresiarch κατ'ἑξοχήν in the eyes of the Orthodox Bulgarian priest Cosmas, who wrote (Runciman, 1961:67) in his account of the heresy (c.990 C.E.): "In the days of the Orthodox [Bulgarian] Tsar Peter there lived in the land of Bulgaria a priest called Богумилъ who in reality was Бѣу не милъ, who was the first to sow heresy in the land of Bulgaria." Runciman comments: "Cosmas uses the form *Bogumil* [rather than the 'expected' *Bogomil*] to make the pun more effective." He implies that, by employing the form Богумилъ, the Orthodox priest intended the reader to understand *Bog-umil* "undear-to-God, non-Friend-of-God," whereby the "titulary" with which the Orthodox priest dubbed the heresiarch (Бѣу не милъ "not-dear-to-God," with a dat. of Богъ) would serve to repeat Cosmas' maliciously distorted interpretation of the given name of the heresiarch (a negative reflection of the way that the left side of Azatiwatas' parallelistic titulary repeats the "attestation" made in his given name [see p.990 above]); this the Orthodox priest accomplishes by playing with the two privative prefixes that Slavic is graced with: *u-* and *ne-*, e.g., in the words *ubogŭ* and *nebogŭ* (see pp.973 and 979 above).

It is almost axiomatic that the possibility to utilize a somewhat distorted form for the purpose of making a point assumes the potentiality of such a morphosyntactic structure in the grammar of the language, if not the actual lexical item, and in our present case the linguistic availability of such a form as that used by Cosmas is readily demonstrable: the actual name of the heresiarch is a standard IE "real" compound (with first element of the *-o* stem class), while *Bogu-mil* is a

"fleclional compound," with its first element in the dat. case as Gk. δῖ'αἰολος "dear-to-Zeus" (epithet of Akhilleus in Iliad A 74) or δῖ'(F)εὔ-περις "rained(-upon)-by-Zeus" (epithet of bountiful streams). The "real" type of compound can be illustrated without looking very far: the Gk. "Vorlage" of βορομυλ, θεόφυλος.

It is a sad fact of a linguistic paper that one must honour the Eleventh Commandment: "Thou shalt not get personally involved with thy subjects; they are but a data-bank." Here we feel particular pain inasmuch as this sect, which was responsible for vegetarian distortions in the Slavonic text of Josephus, anti-alcohol revisions in a version of the *Apocalypse of Baruch*, gnostic insertions in the Slavonic *Book of Enoch*, and a retelling of the Pentateuch ("The *Palea*, the great popular Old Testament of medieval Russia" [Runciman, p.85]), which de-Judaized and gnosticized the Heb. Scriptures (not without overt anti-Semitism, a little known fact of history, not irrelevant to understanding the events in the Russian ruled Empire today), and which was (in all likelihood) the transmitters of Armenian dualism to the Albigensians, is of mighty significance for Western civilization as a whole. The French barons, who in collaboration with the Holy Apostolic Catholic Church, so viciously genocided the Albigensian citizens of Provence, ended up employing the folk name of the Bulgarian Bogomils as an ethnic slur, which survives today in English *bugger* (n.) (from Old French *bougre* < *bulgar*) "anifututor," (v.) "anifutuo," and (abstract) *buggery* "anifututio."

It is only fitting that we give IXa a suitable conclusion: Puhvel (1980:69) cites a Hittite *locus* together with a CL *locus*, which forms, as it were, a targum to the Hittite passage. By means of (1) internal parallelism in each *locus* and (2) the semantic range data to be gleaned from the Targum Luvianus, Puhvel's passage can only serve to refine our conceptual understanding of just what the meaning of *miūmar* (which has been the subject of this 35 page section, whose length was due to the irrecusable necessity to provide [minimally] all the details we did) is. Hitt. (KUB XXXIII 62 II 10):

DINGIR.MEŠ-aš	aššūnit		DINGIR.MEŠ-naš	miūmnit
siyunas	asiyunit		siyunas	miyumnit
"By-the-favour of the gods			by-the-kindness of the gods."	

CL (KUB XXXV 45 II 10):

DINGIR.MEŠ-aššazati	waššarahitāti		hūitummanahitāti
massan-ass-āzati	wasara-hit-ati		hūitu-mana-hit-ati
"By theic kindness			(and) sustenance."

Of the four quasi-synonyms, the Hitt. left item is an instr. of the abstract *aššiya-war* (an -r/-n stem), from the root **ns-* (as in Aza-ti-wa-tas). Parallel to this is the instr. of our abstract *miū-mar* (also an -r/-n stem). The CL left item is the instr. of the abstract in -hit, from the stem we saw in the HL abstract *wasara*. Parallel to this is the

instr. of another abstract in *-hit*, from the stem *huitummana-*, which itself is in origin an Anatolian abstract in *-mar/-man*. This abstract is attested in Palaic (Carruba, 1970:56) *huitumar-ša* (with the vacuous deictic, proper to the nom./acc. of *-r/-n* stems [Arbeitman, 1980c:228]) and possibly in Glossenkeilsprache (without the deictic; see Neu, 1974: 94, fn.195). Both HL *wasara* and the CL stem *huitummana-* represent intra-Anatolian thematicizations of old *-r/-n* stems (the evidence cannot be presented here), and in CL both are redetermined with a neo-abstract suffix *-hit*. The Palaic(/Glossenkeilsprache)/Luwian *huitu-mar/huitu-mana-* literally "sustenance" (etymologically "life, living"), represent abstract formations to an adj. **huitu-* "alive."

Puhvel (1980:66) is emphatic on the fact that Hitt. *aššu-* "good, dear, favoured, agreeable," Luw. *wašu-* (and Hitt. *hūišu-* "live") are all *-u* stem adjs. to primary verbs. The same holds true for *mī(y)u-*, to an Anatolian primary verb *mī(y)-*, and for Gk. *πράϋς* (cf. the cognates on pp.964-65 above); our adj. **huitu-* : Luw. *huit-* "to live" = Hitt. *hūišu-* "live" : *hūeš-* "to live." The semantic proximity of the five adjs. in question (and our postulated adj. **huitu-*) is almost too good to be true.

The name of Asia is derived from a local district in Western Anatolia (the process of the "outsiders" generalizing the local name is of one sort with that described in fn.19 above): Assu-wa (with the same typonymic suffix as in the two polinymy cited at the beginning of section X); the name of the district meant "The Land of Abundance ('Good')."

The parallelistic terms of the Hittite passage given by Puhvel, and the offerings of the Targum Luvianus speak well enough for themselves that we have no need to "interpret" the nuances they give us concerning *miumar*. One fact, one single fact, one of monumental significance, emerges from the whole picture: *miumar* means "benignity (from *the one* member of the moiety [God → man, as we have it attested in this specialized Hitt. employment] to *the other*)."

The debt that this article owes to the work of Jaan Puhvel is apparent on just about every page. For his scientific contribution all fellow-scholars can be grateful; this one is particularly so for his having responded to a request for a single offprint (several years ago) with a gift of 12, all of which (and subsequent arrivals) have not ceased to influence our thinking. The work on *miu-* would not have been possible if not for the great kindness ("benignity" dare we say?) of Gary Beckman, who provided us with copies of the Götze and Ehelolf articles. Since this is not the first time Prof. Beckman has responded to our needs with generosity, we are pleased to be able to express our gratitude. The lifelong colleague of Prof. Kerns ʕ"r, Ben Schwartz, went beyond the call of duty in sending us his only remaining offprint of his 1947 article which we used in our section on *araš*.

b. الخلیل AND חברון: 50 YEARS AFTER BORÉE

It is now 50 years since the appearance of Borée's magistral footnote (1930:59, item #21 with fn. 6): "חברון χεβρων ..., *el-Halīl* (Jud.), *hbr* B. 715²⁰; חבר verbunden sein. ([1] In *halīl* Freund ist wohl eine Übersetzung zu חבר aus חברון zu sehen; [2] auf Grund dieser Bedeutung wurde dann später dieser Ort zu Abraham in Beziehung gesetzt.)" The bracketed numbering within the footnote is ours. The words of this man of vision/wisdom have gone largely unheeded, not unusual for an insight which is sadly out of joint with its time. Typical of the negative response of conservative scholarship is the comment of Maisler ([Mazar] 1949:310, fn. 1) "*Borée*, Die Ortsnamen Palästinas, p. 58 סובר, שאל-חליל אינו אלא תרגום המלה חבר, בלי קשר לאישיותו של אברהם. סברה זו משוללת כל יסוד." (Borée ... is of the opinion that El-Khalil is but a translation of the word '*ḥābēr*', with no connection to the personage of Abraham. This opinion is devoid of all foundation). Borée's 27 word footnote tells us well that adjectives like "magistral" and "monumental" are not allocatable on the basis of voluminosity of verbiage, rather only on the basis of the conceptual significance that the words hold for the advancement of science (a "reader specializing in Hittite" once commented on our 1981b: "The author has a gift for overstatement. No matter how important the work of Hawkins, Mopurgo-Davies and Neumann might be, I don't believe that the adjective 'monumental' is appropriate for a 55-page pamphlet." It seems that this anonymous critic believed in weighing scientific contributions on a scale, which then determined their "importance"; one is really hard pressed to believe one's eyes when the book that has revolutionized the study of HL, and thus contributed so greatly to laying the foundation for any future new model of IE, is referred to as a "pamphlet!"). Borée's words laid a royal carpet for all future investigators of cities with alternate onomata to walk on; so few words, yet so full of food for hungry lovers-of-Torah! On [1] Borée was no less than 100% right; on [2] the sagacious man was wrong, but there are extenuating circumstances, which we believe must be what boxed him into his [2] conclusion: while خليل is the Arabic word employed in the Quran for the relationship of Abraham ﷻ God, חבר is most emphatically not the Hebrew word employed in Isaiah and II Chron (nor is the over-lay word with חבר, the word we saw in the examples on p.913 as the "echt-hebräisch word" for the "the one ... the other" expression, רע; we put quotes around this description, for many words considered as Aramaicisms in the Hebrew Bible are good, though less wide-spread, Hebrew words). The Biblical passages that describe the relationship employ a different word, one of a totally divergent semantic and conceptual significance: Hebrew אהב in Is and II Chron and Aramaic רחם in the Targum (Syriac *rhym* in James). The Slavic versions considered offer a paltry representation of *дѣти* (their "the one ... the other" word) in their description of the relationship (6 usages out of 21 considered on p.915). Thus, Borée's conclusion that while خليل serves well to translate the polynym (which, at least, the Arabs believed to be based on חבר), the site was only later associated with Abraham. Maisler was right to condemn this view of the non-connection of Hebron with Abraham. Where Maisler was at fault was in his failure to comment at all on that part of Borée's ob-

servation that was of trailblazing monumentality. We started section IV with the premise that מְנוּחָה is a polynym with the meaning "Place of the Friend (חֵן). We saw both Islamic and Jewish traditions connect the alternate Hebrew and Arabic names (מְנוּחָה and الخليل) with Abraham, "a Friend fitting for God" (p.902). In section Vb we subjected this thesis to microscopic scrutiny, exerting the maximally permissible quantity of stress that a doctor can on the patient, the aetiology of whose symptoms he is trying his "damndest" to get some clues to. This probing was required of us, for our patient showed an unusual case history. No one was willing to believe his story (for good reasons); yet what he reported had enough of a ring of truth to it to make us feel it worthwhile to take on his defense. Well, here we have arrived, facing a quandary: are we left with the single option of accepting Borée's view of the mutual translatability of the N.W.Sem. and Arabic polynyms and concomitantly denying the Abrahamic connection, not merely with מְנוּחָה and الخليل , but indeed with the two further alternate onomata of this polis (for we have proposed that, although the meaning of Qiryat Arba is not "4," the polis in question does have a fourness about it, in that it is endowed with four names, and these four are one)? It is this last circumstance (which neither Borée nor his critics were able to be aware of) that enables us to disentangle ourselves from the bind that Borée was locked into. We will vindicate our polis and Abraham's connection with it in subsection c β ; but first some terminological problems have to be solved, which we will attempt to do in as concise a format as possible.

c. THE TWO ABRAHAMIC COVENANTS

α . Anatolian and N.W. Semitic Covenant Terminology

The key that provided us the road to understanding the conceptual significance of the abstract *mūmar* was Rendsburg's analysis of *rīm* as both "(God's) Benignity" and "rain" (p. 972 above); Rendsburg's own analysis was influenced by Dahood's discovery that *ṭōb* is also "rain" as well as a common adj. "good." Now, at our concluding, we return to these two items, for they are the exemplars $\kappa\alpha\tau'\epsilon\chi\omicron\chi\eta\nu$ that enable us to penetrate the bases of A.N.E. covenant concepts. It has long been standard doctrine that the "form" that the covenant/pact which the People of Israel cuts with its Deity takes, is "patterned/modelled on" Hittite "suzerainty treaties." We cannot deal here with the work concerning this problem by Mendenhall, Hillers, Moran, and McCarthy. We have worked from the converse premise: the Hittites themselves had (illustrable by the roots *miy-* and *was-*) the form and concept of the benignity (-treaty/pact) existing God \rightarrow man. We documented that in *was-* the concept was extended to man \rightarrow man "treaty-relationships"; *ṭōb* and *rīm* remain the best witnesses for the process in N.W. Semitic biblical linguistic and conceptual understanding of the connection between God's benignity and the two kinds of treaties: *ṭōb* indeed means "rain," thus a manifestation of benignity God \rightarrow man. But the fem. of the adj. (*טוֹבָה*) is not a mere manifestation of benignity (as in the examples given in (1)-(9) of IXa β A); rather, it is employed (in abstract use) as an unequivocal synonym for *ברית* "covenant." II Sam 7:28 presents the prayer of King David (the example and particularly the translation of *טוֹבָה* are

those of Hillers [1969:109 and 113], not ours!):

כי-אתה יהוה עבדות אלהי ישראל גליתך
את-אזן עבדך לאמר בית אבנה-לך
Israel, didst unplug Thy servant's
ועתה אדני יהוה אתה-הוא האלהים ודברתיך
thee a dynasty"... Now Lord YHWH, אתה
Thou art the God and Thy words are
continually truth; Thou didst speak to Thy servant this pact of friend-
ship.

Hillers adds (p.113) the observation: "Etymologically related words [to *ṭōbāh*] are often used outside the Bible for 'friendly relations established by treaty,' and there are several passages in the Old Testament where the Hebrew word may now be recognized as having the same sense." Besides this abstract noun for "covenant," demonstrated by Hillers, there is an as yet unrecognized Heb. verb that, amongst other meanings, has that of "be/remain in covenant relation with." Amongst the passages Rendsburg cites is Hosea 1:6 קרא שמה לא רחמה כי לא אוסיף עוד Inoffering "Call her name 'Lo-ruhama', for I will not ארחם את-בית ישראל," Rendsburg limits himself to a dimeric polysemy; the body of internal evidence that he adduces for the "rain (fertility)" is not to be made light of. But he has missed something: the semantic parallelism between the לא רחמה of this verse and the לא עמי of 1:9 "Call his name 'Lo-Ammi,' for you are not my people (אתם לא עמי) and I am not 'HYH unto you" (employing a variant of the tetragrammaton אהיה ["I-am"]) demands a different kind of dimeric polysemy: "I will not continue to be the 'covenant-partner of/cause rain upon the house of Israel." The parallelism (across the verses) of "be covenant-partner" || "be my People/be 'I-am' to you" is vital for a full realization of the dynamics of punishment. The same dynamics are at play in the retraction verses, 2:1 and 3:5, wherein the rejected become God's People again and obey the stipulations of his pact/covenant: "Instead of it being said to them 'You are not my People' it shall be said to them '[You are] the Sons-of-the-Living-God'," and "They will seek YHWH, their God, and David, their king, and they will deal reverently with YHWH and with his pact of friendship (טובו)." While Rendsburg properly asserts that "this second meaning ['rain'] fits ... into ... the entire book's concern with the fertility cult in ancient Israel," the meanings we have seen for both *rḥm* and *ṭōb* are likewise demanded by the entire nature of the book, dealing, as it does, with the ups and downs of God's fertility/benignity/covenant relationship with His People. Any and all attempts to isolate one single collocation from any single verse miss this central theme of the book and amount to special pleading (the antithesis of "the examined life"). The above yields a proportion: טוב "rain" : (ה) טוב "covenant" = רחם "rain" : רחם "be covenant-partner." It is in this sense (the covenant-partner *par excellence* of the Deity, whom he represents in his role as leader of his people) that Abraham is the רחם (אהב) of God; it is for the same reason that Azatiwatas is the *Mi-tas* of his god. The Anatolian roots which we considered (**ḡs-*, *miy-*, *was-*) have their origins in the field of "benignity of the divine"; the last we have seen coming to be used for benignities man \rightarrow man; the first develops a generalized usage of "good, agreeable man \rightarrow man; and even thing \rightarrow man. Semitic *ṭōb* and *rḥm* have their

origins, likewise, in the semantic sphere of the goodness and benignity that emanates from God.

As opposed to the above items, N.W. Semitic *ḥābēr* never meant anything other than an *equal participant in any sort of undertaking* (commercial, socio-political, or any other kind of *joint venture* or *collaboration*). Since we cannot here undertake the study originally planned as a section for this paper, we will have to content ourselves with one single illustration (and there is not much to be discontent about in this illustration), that from II Chron 20:35-37, which we dealt with on p.952; although the example there is of the verbal root itself, the usage tells everything we need to know concerning *ḥbr*. The reader may also be referred back to the discussion on p.956. We have a particular reason for citing here one fragment from the Heb. of *Ben Sirach* (13:16); the reason will manifest itself in subsection cy. shortly:

How can a wolf be made a partner to a lamb? מה יחבר זאב אל כבש.

Anatolian *ara-* has just about a 100% semantic overlay with *ḥābēr*. The prominent cognates are: Lith. *artimas* "fellow/other," Homeric ἀρθ-μῆω "to form a friendship-alliance," ἄρθμος "a friendship-alliance-partner," Gk. ἀρτίς "φιλικὸν καὶ σύμβασιν" (Hesychius; cf. p.928 above). N.W. Sem. *ḥābēr* and Anat. *ara-* are "the two members in a *par* † *par* moiety." When such a term is applied to the god † man (king) moiety relationship, it is only by way of an extended (metaphorical, as it were) usage (the employment we saw in Schwartz' text [pp.991-92 above]).

The highly specialized employment we see in our Anatolian attestations of *ḥmiy-*, limited to divine benignity-treatylike applications, must be deemed an intra-Anatolian development in view of the usages in the cognate languages (pp.960-64 above); yet even within Anatolian itself, there survives a remnant of the old usage, in the term used to describe the *Untertanen* in their treaty-relationship to their *Ober-(lehns)herr* (pp.985, 988, and 991 above).

One single fact remains beyond any disputation: N.W. Sem. חבר (and רע) have an overlay with רחים (and אהב), which if it exists at all, is of so low a statistical occurrence as to make it [-any relevance]! On the other hand, N.W. Sem. חבר has an overlay with Anat. *ara-* which, if it may fall short of 100%, nevertheless remains in the semantic concordance so statistically significant as to make it [+all relevance]!

β. What Can Cause a City to Be Bilingually Named?

There is known to this scholar only one site that an A.N.E. text(1) tells us [a] that it has three names and [b] that the three names are mutually translatable or equivalent in meaning and (2) gives us the basis for the site receiving this triad of names (together with the *situational context*). Since we can only work with what we have, we will produce this "witness" for the defense, and let it tell its own story. In Gen 31:44-53, Laban has caught up with his fugitive son-in-law, Jacob, and the following exchange takes place:

"Now come, let us, me and thee, cut	ועתה לכה נכרתה ברית אני ואתה והיה
a covenant to serve as a witness	לעד ביני ובינך: ויקח יעקב אבן וירימה
between me and thee." Then Jacob	מצבה: ויאמר יעקב לאחיו לקטר אבנים
took a stone and raised it as a	ויקחו אבנים ויעשו-גל ויאכלו שם על-
stele, and then Jacob said to his	הגל: ויקרא-לו לבן יגר שהדותא ויעקב

retinue ('*ahīm*): "gather stones"; so קרא לו גלעד: ויאמר לבן הגל הזה עד ביני ובינך היום על-כן קרא-שמו גלעד: and at the cairn, there did they והמצפה אשר אמר יצף יהוה ביני ובינך eat [a sacrificial meal]. Laban כי נסחר איש מרעהו: אם-תענה את-בנתי ואם-תקח נשים על-בנתי איך איש עמנו called it *Yəgar Sāhādūtā* ("The Cairn of Witnessing" [in Aramaic]), while ראה אלהים עד ביני ובינך: ויאמר לבן Jacob called it *Gal'ēd* ("The Cairn of Witness" [in Hebrew]). Then Laban יריתי ביני ובינך: עד הגל הזה ועדה המצבה אם-אני לא-אעבר אליך את-הגל הזה ואם-אתה לא-תעבר אלי את-הגל הזה call its name *Gal'ēd* and *Hammišpāh* ואת-המצבה הזאת לרעה: אלהי אברהם ("The Watchtower" [in Hebrew]), ואלהי נחור ישפטו בינינו אלהי אביהם giving as the basis: "YHWH shall keep וישבע יעקב בפחד אביו יצחק: watch (*yīšep*) between me and thee inasmuch as we shall not be observable, the one by the other (איש מרעהו [in the Targumim, בגבר מחברה] if thou shouldst [violate the treaty by] mistreat[ing] my daughters or if thou shouldst [violate the treaty by] take[ing] wives in addition to my daughters. It is not a man who is the participant with us [in this set of stipulations]; just take a look: it is God who is Witness between me and thee!" Laban said to Jacob: "behold this cairn and behold the stele which I have cast between me and thee: this cairn is witness and the stele is witness lest I should [violate the treaty by] transgress[ing] this cairn to thy side and lest thou shouldst [violate the treaty by] transgress[ing] this cairn and this stele to my side, either one of us for evil-doing. May the God of Abraham and the God of Nahor (their [respective] paternal deities) judge between us!" Jacob then took an oath by the *Paḥad* of his father Isaac.

The entire series of happenings is replete with the authenticities proper to such a "cutting" of a stipulation-and-contingency friendship-(modus vivendi)-treaty between two *ḥābērīm* (a terminus technicus that means just that, the parties to such a pact). The authenticities include items of the utmost significance for a proper understanding of the process whereby that city, which was latter to become David's provisional capital, received its bilingual, *but trinominal* appellation. There occurs a line in the dialogue (vss.48-49), presented by the text as being spoken by Laban, an ascription which the realities of the dialogue necessitate our recognition that the line is out of sequence. The evidence is manifold, and cannot be dealt with here except for *the* essential factor: it was Jacob who "called it *Gal'ēd* (Heb.)" the first time round, and when the line is repeated (in proper epic style) with an addition (again, authentic heroic age practice): "therefore did he call its name *Gal'ēd* and *Hammišpāh* (Heb.)," it needs must be Jacob who repeats this name, *but together with the second Hebrew name*. The ceremony demands (1) the stating by the חנניס of the stipulations of the modus vivendi pact (together with the consequences of breaking the same); (2) the presence of a third participant to the pact: the witness (here God Himself). Jerome renders vs.47: *Quem vocavit Laban Tumulum testis, et Iacob Acervum testimonii, uterque iuxta proprietatem linguae suae*. The Witness (*testis* < **tri-stis* "the one beyond the moiety"; **tri-stis* is coradical with *trans* [see Bader, this vol., p.40]) is He Who watches from "The Watch-

tower" over the fulfillment on the part of the two *ḥābērīm* of the stipulations to the *brīt*, He Who transcends their moiety; (3) the site is named in commemoration of the pivotal event that took place between the חכרים; (4) each party so names the place, in Jerome's words, *iuxta proprietatem linguae suae*, and (5) one *ḥābēr* gives the place two names (*iuxta proprietatem linguae suae*).

γ. Abraham, חבר עפרון/Ephron, Araš Abraham

The friendship-covenant which Laban and Jacob effectuated in their capacity of *ḥābērīm* is called in Indo-Iranian *Mitram* ("ἔνντα"), which is defined by Benveniste (in connection with his discussion of Lat. *mutuus* and *communus*) as follows (1973:80-82, quoted by us in fragments):

What is concerned is not sentimental friendship but a *contract* in so far as it rests on an *exchange*.... [The noun *Mitram* is] formed from **mei-*,... with the [abstract] suffix *-tra-*.... [It designates a relationship entailing] the notion of mutuality and the bonds of reciprocity. ([*op. cit.* p.302] ...[this] relationship ... is not established either between individuals or between groups except after the conclusion of a pact under special circumstances.)

The Anatolian abstract suffix *-mar*, added to this same IE *√*mei-*, gave Hittite a noun of a semantic sphere almost identical to the Indo-Iranian *Mitram*: *miumar* (*√miy+u+mar*). This Hittite abstract appears as the second Hittite name (alongside ארית ארבע [URUaraP'a]) of the city called by the Hebrews חכרון.

As biblical historians, we are granted no license to make light of facts, the facts given us by our only tool, written records from ancient libraries: only two peoples (through their representatives) are recorded as having concluded such a pact in Hebron. The Hittites ("The Residents of the Land") and the Hebrews (the *ḡērīm*) conducted the negotiations, as recorded in Gen 23, that resulted in a pact of the nature described above. Herein lies the way out of the quandary that Borée was boxed into. Hebron is, indeed, named after Abraham "the Friend," but *not* in commemoration of his "friendship" with God (as אהב); rather in commemoration of his other *brīt*, the one he cut with Ephron (as חבר). The *situational context* of the site being named bilingually, *but trinominally*, in commemoration of this pivotal event is one and the same as the process whereby the site we discussed in the previous subsection received the three appellations: two in Hebrew (*Gal'ēd/Hammisṣpāh*) and one in Aramaic (*Yəgar Šāhādūtā*).

Abraham describes himself to The Residents of the Land (the Hittites) as a *ḡēr wetôšāb* ("an outsider") as his very first words of introducing himself, preliminary to the negotiations. In this context, the passage from Is 11:6, וגר זאב עם כבש "A wolf shall reside together with a lamb," is significant, when juxtaposed with *Ben Sirach's* "twist" on it, for one single reason only: the root that the latter employs (*ḥbr*) to render Isaiah's *√ḡūr*. Any question as to whether the outpost of Hittites dwelling in the boondocks of Canaan "extended" the limited usage of *miumar* that we are able to perceive from the paltry attestations of the word in the Anatolian Homeland texts, or whether this outpost "preserved" the inherited IE sphere of the word's application,

turns out to be irrelevant, for IE $\sqrt{*}mei-$ is both that love whereby God dispenses His largesse to man and that love whereby alone "fellows" are able to reside in symbiotic *peace*. Both meanings continue in Slavic: the former in the word used for Abraham is his capacity as "Friend of God" (stem *mīl-* in Czech [p.915 above] and also in [Baltic] Latvian [p. 918 above]; cf. also the usages cited on pp.920-21); the latter in the word which describes the results that occur only after the conclusion of a *miumar/mitram*: *mirŭ* (to conceive the relation in terms of the other side of the coin: *miumar/mitram* is the *sine qua non* for the existence of *mirŭ*; cf. the remarks of Puhvel, cited on pp.963-64 above).

miumar/mitram/mirŭ "peace-covenant" : *mīl-* "God's love"/*miu-* "(epi-
thet of) rain," the manifestation of God's love = טוב(ה) "peace-
covenant" (both God \nless man or man \nless man) : טוב "rain," the manifes-
tation of God's love = ὄρετύς "φιλῶν" : ἄρτος "bread," the manifes-
tation of God's love.

Abraham, in the toponym commemorative of his other/second *brīt* (ממרא, the Hebrew graphemic representation of *miumar*), is *mutuus* to Ephron, his *brīt*-partner; as *gēr*, he is *immigrant* to the Land and vis-à-vis the מושבי הארץ.

The words that Ps 133 begins with are not mere sentiment:
Behold how good and how benign הנה מה-טוב ומה-נעים שבת אחים גם-ליחד.
the symbiotic-dwelling of "fellows" is!

This resolution to the mixed blessing that Borée's sagacity left us with, is not an *ex nihilo* web that we have spun: on p.901 we cited a Rabbinic commentary contained in the *Torah Shlemah*; we ourselves failed to realize until now what that commentary told us:
[Hebron is] named after this על שם אותו חבר שקנה את המערה והוא אברהם.
very *ḥābēr* who purchased the Cave and this is [none other than] Abraham.

When Gen 23 presents the specific act of negotiating for the Cave, it is employing this specific event as a means to symbolize/condense/distill into literary-microcosmic terminology, the pivotal-macrocosmic event that took place there and then: the obtaining by the Hebrew People, for the first time, the rights, privileges, and obligations, to co-dwell on a permanent basis, together with a previously settled population, in a city in The Land of Canaan! Such privileges are only obtained by cutting a *brīt*. In the cutting of that other/second *brīt*, Abraham became the *ḥābēr* of Ephron; Ephron became the *araš* of Abraham. That which Abraham referred to as a *brīt* or a *ṭōbāh*, was known to Ephron as a *miumar*. In choosing the distilling/condensing modality of presenting the event, the author of Gen 23 deliberately excluded the verse of which we have every legitimate privilege to have expectation:

*ויקרא-לה אברהם חברון ועפרון קרא לה קרית-אברב וממרא.

The day when this covenant was cut was a unique and magic point in the millennia of recorded history: Indo-European "Aryans" (properly applicable only to Anatolians, Indo-Iranians, and [perhaps] Armenians) included Jews in "Aryanhood," and Jews, on their part, did not exclusivistically proclaim: חברים כל ישראל.

The entire population of symbiotic Hittite-Hebrew Hebron were all *ḥābērīm*, all *arēš*, all *miyuweš*. Some day it may be granted that the entire population of Hebron/El-Khalil become all "'*ahīllā'u*" as well!

We can now, at long last, fill in the *X*'s and substitute for the brackets in the "Abrahamic Titulary" chart on p.921 above:

City name:	<i>ʿar-b^c</i> ארבע	<i>Ḥbr-ōn</i> חברון	<i>El-Halīl</i> الخليل	<i>Miy-u-mar</i> ממר
Phrase:	<i>araš...aran</i>	<i>ʿnš...ḥbrh</i>		μοῦτον...μοῦτου
The Titulary:	<i>*araš</i>	<i>ḥābēr</i>	<i>halīl ar-raḥmān</i>	<i>*mi-tas/*miy-uš</i>

The archaic *Latin* phrase *μοῦτον ἀντὶ μοῦτου*, preserved in the borrowed Sicilian Gk. (Sophron 168), "gift for gift" consists of the noun in the neuter, repeated twice, and is, thus, identical (except for the gender) in all respects to Hittite *araš...aran* (and Slavic *drug...druga*). It is highly reasonable to suppose that archaic Latin also had the masc. gender expression: **moitos...moitom* "the one ... the other," thus sharing the conceptual isogloss with Anatolian and Slavic. As we pointed out above, though the attestations from within the Boğazköy texts and the HL texts display Anatolian *ʾmiy-* primarily in God ↔ man relationships, the etymological base meaning of the IE root (**mei-*) persisted; and it is in this sense that the words *mitas* and *miuš* fit into the second Abrahamic titulary, that which he is endowed with as a consequence of his covenant with Ephron. Qiryat Arba, Mamre, and Hebron are, all three, derived from these two IE (*araš*, *miuš/mitas*) and one N.W. Semitic (*ḥābēr*) terms of mutuality. In Gk. "gift" is the standard object of the verb which is cognate with the root of *miy-u-mar* and **moitos*: ἀμείβω.

It is thus beyond doubt that all four names of the City commemorate Abraham as a *ḥābēr* with a Hittite *araš/miumar*-partner. Only when the Muslims arrived on the scene and translated the old name into El-Khalil, did the erroneous, language-specific, association of the polonym with the prime Abrahamic titulary "Friend of God" become linguistically possible. *The words araš and miumar vanished for all time at the end of the Bronze Age; by this single solitary fact, the very floor falls out from under all and any attempts to ascribe "the literary creation" (a creatio ex nihilo) of the Abrahamic history to a post-Bronze Age period.*

X. A PHONOGRAPHEMIC PROBLEM

There can now remain little scepticism with reference to the semantic equivalence of the four (!) names. The etymology remains firm because the mutual semantic equivalence of all four names is so exact, a matter that the laws of probability do not permit us to ascribe to hazard. Furthermore, in the suffixes which form part of three of the names, there is an exact morpheme *functional* equivalence (in two of the names, a morpheme-for-morpheme equivalence, while in the third there is a morpheme which, while having the same function, belongs to a different semantic category). The point we wish to detail and insist upon with all available emphasis is that when you have items that etymologically, and even morpheme-for-morpheme, match so exquisitely, and are historically (as distinguished from considerations purely linguistic) candidates of such high probability for lexical equivalence, it is not the case that one has the temerity to ignore *Lautgesetz*, but rather that one has to place the two claims, that of an overly rigid obedience to doctrine of *ausnahmloses Lautgesetz* and that of the ponderous burden of combined other-than-phonological linguistic "workings" of the etymology (morpheme and lexical equivalence and historical "reality") each on one of the pair of scales. If their weights balance roughly, then you are bound to follow the conservative line; *Lautgesetz* rules out the etymology. If, on the other hand, the other factors just named sink the scale, let's say 7/8 the way down, then you are without choice in agreeing that the etymology has so high a statistical probability of being right as to be as near certain as our kind of science allows. This is not to say that you can dismiss the *Lautgesetz*; only that now you are compelled to work with the hypothesis that the *Lautgesetz* problem is only a seeming problem; i.e., you must set your energies toward finding either a conditioning factor or dare to conceive that there is something else at work which was beyond the explicatory power of the phonological theory as it has been elaborated in the traditional systems. Before we undertake to make such an attempt here, we would like first

to further impress on the reader how strong the lexico-morphological and historical situation equivalencies are in the present case, and how much the traditional explanations have operated by folk etymology (both the ancient commentaries and the modern scholars and all those in between). This we shall do by giving some hypothetical analogies.

If the Anatolian cities (A) *Iṣtanu-wa* and (B) *Wattar-wa* (respectively "The One [= City] of the Sun" and "The One of the Water", both formed with the suffix *-wa* [on these cities, see Palmer 1965:339]) were to appear in the Bible in a phrase like (a) *אשתנוא הוא שמשון* (קרית) or (b) *אשתנוא הוא *מימו* (קרית),³⁰ we are quite convinced that the early exegetes would explain *אשתנוא* as (1) a *Hitpa'el* from the root שנה (with the expected metathesis in a root beginning with a sibilant), having the meaning "we/they were changed" or (2) some form of the root שיך with a meaning "we/they pissed". If this last explanation seems incredibly unlikely because of some "vulgarity", the reader need only consult what the Targumist did with the names Aryok and Šem'ēver (discussed in Arbeitman 1980a:84). He would be just as likely to explain *אותרוע* as (1) "they were left over" or (2) "shouting" or (3) Aramaic תרי "two"³¹ + על "upon" (with the *lamed* having "vanished"; not that our exegete would really be very bothered by this last problem). In both cases (2) and (3) the initial *waw* would mean "and". If, however, instead of our example (a) above, our hypothetical Biblical verse contained as the first of the two mutually translatable names, not a Hittite polonym (our *Iṣtanu-wa*), but rather a Luwian equivalent, let's say **Tiwata-(a)pa-*, and the phrase read (c) *אותרועא הוא שמשון* (קרית),³² our

³⁰For the allomorphophonetic suffixes *-ōn* and *-ō* that we are using in our fictive examples, cf. sections IV and VI. In each sentence, the initial asterisk pertains to the whole sentence; in example (b), a further asterisk appears before our imaginary Hebrew word.

³¹Thus, for this city, we would have "2" stories just as we have "4" stories for Qiryat Arba, and "7" stories for Beer Sheba (cf. Arbeitman 1981a, section I Excursus).

³²For the Hebrew spelling of our invented word, cf. Phoen. אזתור of Karatepe rendering Hier. Luw. *Aza-tiwata* "lover of Tiwats". On this

exegete would not greatly cause us surprise if he explained the name as "Thanks comes (תודה באה)" or even "The Sign of the Bear (תג דב)". For this last example, cf. the brilliant analysis of Szemerényi (1962: 19-20) of the Greek constellation called either ἄρκτος or ἄμαξα. The tremendous importance of the etymological development that Szemerényi gives for this constellation lies not in its solving one particular word; rather the sterling example of a *means* of dealing with a name word (1. *Wanderwort*, 2. folk etymology, and 3. utilization of mutual translatability of alternate names) is the import that it has for all fellow researchers. This methodology is that that was used by Borée (see section IX) and Mendenhall (whose work originally inspired the entire set of problem solving means here and which we will discuss in Arbeitman forthcoming d). In our traditional exegete we find no reason to have any expectation of his fulfilling modern scientific principles, for his needs and goals are not ours, and we owe to accept every place and period and their methods on their own terms. We do not prescribe to Rabbinic exegetes nor, for that matter, to those of any other tradition, were such prescription even possible (in the case of the traditions we are dealing with, these great scholars are long gone. But even in the case of living interpreters whose purpose is "edification" of whatever sort they conceive it, the scientist has no need nor business to argue). However, in the case of modern scientific linguists, we do have the right and expectation -- however over optimistic such an expectation may be -- to assume that they will inspect toponymic or anthroponymic etymologies sceptically and employ all means available, not excluding the traditional sources and etymologies (an inspiring employment -- in just the right "mixture" -- of tradition and modern scientific means is Tigay [1978]). In our present cases, we would hope that scholars would be dubious of the explanations of our imaginary exegete, and would without much trouble realize that the

name, cf. Arbeitman 1981b, and for the spelling in particular, see Arbeitman and Ayala, this volume.

three hypothetical sets of Biblical bilingual toponyms, each consists of an older Anatolian name in Ereš Israel, glossed, at some later time, by the more recently arrived residents in their own tongue (Hebrew), and that the sentences give us the following information:

- (a) We Hebrews say Hittite "Sun-City" suchly
- (b) We Hebrews say Hittite "Water-City" suchly
- (c) We Hebrews say Luwian "Sun-City" suchly.

We fear, however, that, in actuality, the modern scholars would on the whole repeat the ancient folktales and aetiological etymologies. They would only part company with the traditional exegetes in some rather minor scientific detail; not in the approach as a whole. They would comment on (1) the "exceptionality" of the *aleph* for the "expected" *he* at the beginning of our אשתנו* and (2) the "exceptionality" of the non-change of *w* to *y* in יותרו* ("they were left over", etymology 1, not 2 or 3 above). Having solved to their own satisfaction these minor "annoyances", they would then boldly proceed to "understand" the final א- of אשתנו* and תרובא* and the final ע- of יותרו* as likely textual corruptions for a preposition which at one time followed, respectively אל, על, and would proclaim that the polynyms originally meant (A) "They were changed/pissed towards", (B) "They were left over upon", and (C) "Sign of the Bear Towards". In this last case, some would discuss the fact that there need be considered the *possibility* that the final א- could represent the Aramaic determined state, but that this would have to be considered highly unlikely as an Aramaic form "should" not be expected in this particular locale at the time the text was composed (which would be determined by means of the documentary hypothesis [on the documentary hypothesis, examined primarily through linguistic means, cf. Rendsburg 1980]).

Other modern scholars, more daring in their methods of emendation, might determine that in the name תרובא* (קרית), the second ת- was introduced through dittography, and that obviously the ו- is due to a fault-

ty transmission of an original -ג- (the two letters being so similar at various stages of the transmission of the text). Armed with an improved text, obtained through textual emendation (the dittographic -נ subtracted and the -ג- restored), they would now be able to interpret the true reading בא *גד "A Hand Cometh"³³ in a variety of ways depending on the given scholar's predilection (one possibility would be in accordance with the interpretation discussed in Arbeitman 1980a:83).

We have indulged, it would seem, in a *reductio ad absurdum*. But have we really? To have had the continuum of ancient to modern in ארבע קריית (which is Hebron which is Mamre) interpretations as "4" is an *absurdum*. The point is that the equivalence is there and cannot be expunged. The phonetic details present a difficulty, but a solution is not so unobtainable that we should be required to abandon the only rational approach to solving the trilingual, quadrinomial mystery of the Arba/Hebron/Mamre/El-Khalil code.

In the following, we will now offer (briefly, out of necessity) one attempt at an explanation of the phonographemic difficulty presented by ארבע.

Let us emphasize that many alternate explanations are available. We can discuss only one model by obvious limitations of space; we decide therefore to devote this precious space to the solution which presently seems to us to offer the most reasonable explanation of what we *have*: Hebrew graphemes in (1) this word, (2) a theophoric we will discuss, and (3) another toponym to be adduced in section XI: thus, two cases of בע, one of בא (and one of בא). We are not acting as advocates of any phonological theory, but rather presenting the results of cogent etymologies as words/concepts of tremendous cultural significance. The etymologies are determinable by conceptual means with great sureness, while the phonology presents no *insuperable* stumbling blocks.

³³The feminine desinence -נ doesn't appear on the verb, as it too was lost by the workings of haplography (the next word beginning with a -נ).

First, we need to bear in mind that when a recipient language renders the phones of a donor language, it renders what its speakers perceive of the alien sound, and not either (1) a phonetically exact transcription and certainly not (2) a grapheme-for-grapheme correspondence. See, for examples of the process, Rendsburg forthcoming a and Pulgram 1979:691ff. A parade example is that of Eg. *nsw b̥t*, rendered in cuneiform as *insibiya* (Gordon [1979:301] has offered the first cogent etymology for this word, thereby explaining what before were perceived as problems of the cuneiform rendering).

The Hittite sound normally given as /b/ may well have been a glottalized labial. We will at this point need to outline some recent developments in the reconstructing of the Proto-Indo-European phonemic inventory, developments which allow us to postulate the presence of such a sound in (some stages, at least, of) Anatolian. In separate 1973 articles, Gamkrelidze-Ivanov and Hopper proposed a revolutionary reconstruction of the Indo-European stop system. Bomhard (1979:§6) has labelled this theory "the single most important contribution to the reconstruction of the Indo-European phonological system made during this century". To cite from this theory only what is relevant to the present argument, we will discuss only its reconstruction of the traditional Indo-European plain voiced stops. The plain voiced stops are reconstructed as glottalics, and the aspirated voiced stops are reconstructed as plain voiced stops (at least in the version of the theory advocated by Bomhard). Thus:

Traditional	Revised	Traditional	Revised
d	tʰ	dh	d
g	kʰ	gh	g
g ^w	kʰ ^w	g ^w h	g ^w
(b)	(pʰ)	bh	b

(See Gamkrelidze-Ivanov 1973:150ff, Hopper 1973:151ff, and Bomhard 1975:

357. One of the clearest surveys of the theory is to be found in Bomhard 1979:§6. We are fortunate to have discussions of the theory by both Gamkrelidze and Hopper in this volume.) The theory holds that the glottalics became plain voiced stops in Greek, Italic, Baltic, Slavic, Indo-Iranian, and Albanian, while in Germanic, Armenian, Tocharian, and Anatolian, they were simply deglottalized. Gamkrelidze (1968:94) stated that single writing of stops in Hittite indicated plain stops (< IE [traditional] plain and aspirated voiced stops), while double writing of stops indicated aspirates (< IE [traditional] voiceless stops). Thus Gamkrelidze sees in Hittite a system with the oppositions

t	~	th
k	~	kh
p	~	ph.

Bomhard (1976:221) believes that the single or double writing of stops in Hittite is meaningless and that the Indo-European tripartite "distinction between voiced, voiceless, and glottalized stops was lost in the Anatolian languages".

Before going on to discuss our own suggestion, there is another Biblical name that has to be brought up. In II Samuel 23.32 and I Chronicles 11.33, there is made mention of a certain אֶלִיחָבָא in the army of David. The second element of this theophoric name is Hurrio-Hittite *Heba(t)*. A discussion of this *Mischname* is given in Arbeitman 1981a in detail. The *κ*- in this name cannot be a mater lectionis and must reflect Hitt. /*heP'a*/. Thus, two cases of traditional Hittite /*b*/ are rendered in the Bible by אֶלִיחָבָא (in the case of אֶלִיחָבָא, the *κ* is reconstructable by Hess' Law [on which see below]). A third example is provided in section XI, an example that is etymologically almost beyond serious doubt.

We suggest that the Hebrew scribes perceived Hittite sounds which were foreign to them, and that these sounds were of a nature that the

most accurate way these ancient scribes of the recipient language could put them on paper was by means of *b* + ' (or, when affected by Hess' Law, by *b* + ').

We write a capital T, K, and P as the first element of the Hittite glottalics as a symbol for an archiphoneme. Thus, P signifies merely [labial] and that the features of [voice] and [aspiration] are considered phonologically irrelevant: the glottalics are neutral with respect to these features. Hittite was now left with a system of unvoiced ~ glottalics, at least in the obstruent series. As noted by Arbeitman and Ayala (this volume, fn. 2), "It postulates a high degree of phonemic sophistication to assume that the users of the Hittite cuneiform syllabary analyzed /k/, /p/, and /t/ as voiceless and decided to denote them as a set by double writing and concomitantly analyzed /g/, /b/, and /d/ as voiced and decided to denote them by single writing". If, however, single writing indicated a glottalized stop, while double writing indicated a non-glottalized stop, the native speakers' use of a consistent system to indicate the opposition in the guttural, labial, and dental series becomes understandable, almost necessary. The fact that all three glottalics have something phonetic in common and oppose as a group the non-glottalics cannot escape the native speaker (nor, for that matter, anyone, no matter how untrained, who has ever heard a Georgian speaking either his own language or English).

The Hittite glottalics, though not voiced, were maximally unaspirated and therefore were realized graphemically in Hebrew by the grapheme *b* + ' (the Hebrew *p* was aspirated). See the remarks of Sapir (1937:74). No one working in this field can dare fail to acknowledge the heavy debt owed to this giant for showing the way. Particularly to be mentioned in addition to the last reference, are Sapir 1936a and 1936b.

Combining the Gamkrelidze-Ivanov/Hopper systems with the evidence of the Hebrew graphemes, the most reasonable and likely solution is to posit for Hittite a binary system of

P'	~	p
K'	~	k
T'	~	t

and that single writing of stops in the cuneiform indicated the glottalics. These Hittite glottalics derive from the following:

Indo-European (revised system):	g	k'	d	t'	b	(p')
Hittite:		K'		T'		P'

In the labial series, it was *Systemzwang* that produced P' as the result of the merging of IE *b* (in the traditional system *bh*) and borrowed *b*. While it might seem a cause for regret that we have found our first attestation for the presence of glottalics precisely in the labial series, this is not a telling sign against the credibility of our interpretation of the Hebrew graphemes, for in the Hittite system itself, as far as the script lets us know, all three series -- guttural, dental, and labial --, of whatever ultimate origin, were on an equal footing, each series having a bipartite division (voiced ~ unvoiced or glottalized ~ plain unvoiced). While a stable glottalic system runs the likelihood of a gap in the labial slot, and, thus, it would have been "neater" to have first discovered a glottalized guttural or dental in foreign transcriptions, we must keep in mind both the *Systemzwang* and the fact that Hittite was subjected to repeated incursions of sub-/ad-/superstratum infusion of non-Indo-European vocabulary. Thus, alongside of inherited T' and K', foreign *b* was "made over" into P' (coalescing with inherited IE *b* [traditional *bh*] and with whatever few inherited Indo-European words with *p*' [traditional *b*] there were [as insisted upon, we feel correctly, by Dunkel, this volume]).

We have seen this glottalized P' represented by both 𐎶 and 𐎶, and we stated the second rendering to have been produced by the operation of Hess' Law on the sequence *b?*.

Hess' Law states that in Arabic an ʔ (initial or medial) may be "raised" to an ʕ under the influence of an /r/ somewhere else in the word. This process takes place both in native Semitic words and in borrowings. The process occurs both in Classical Arabic and in the dialects. Amongst examples of the process in Arabic borrowings from Indo-European languages are:

Ar. ʕabayṯrān	rendering	Gk. ὄβριον "wormwood"
Ar. ʕaskar	rendering	Lat. <i>exercitus</i> "army"
Ar. ʕirāq	rendering	Pehl. <i>ērag</i> "das unten, Süden".

Amongst native Semitic words are *maʕāṣir* < *maʔāṣir* "Gefängnisse"; dialectal *qurʕān* < *qurʔān*. Hess concludes his article with the words "Das Resultat der kleinen Untersuchung ist, daß ein *r* und nur dies am Anfang und im Innern des Wortes ein *ḥ* hervorbringen kann...." Koehler extended Hess' Law to Hebrew.³⁴ A most interesting Ugaritic parallel in the linguistically odd text 1045 is discussed by Gordon (1965:26), where in three names the presence of an *r* conditions an *ḥ* to be "raised" to a *ḡ*.³⁵ This Ugaritic pendant enables us to give a more precise phonetic description of Hess' Law than Hess himself was able to give. This description will differentiate between graphemes and phonetics. A table will first of all be in order:

	Stop		Continuant	
	Unvoiced	Voiced	Unvoiced	Voiced
Glottal		ʔ	h	ḥ
Pharyngeal			ḥ	ʕ
Velar	k	g	x	ɣ

³⁴Koehler discussed the words עכר and עקרו. Cf. the discussion by Pope 1977:575. Further discussion in Section XI.

³⁵This is not Standard Ugaritic practice, but rather the language practice of a foreign scribe. But even in Standard Ugaritic itself, an

What the *r* does in Ugaritic text 1045 is to voice the velar continuant /x/ to /ɣ/. Utilizing this pendant to interpret Hess' Law in Arabic and Hebrew, we must first describe a glottal stop. Phonetically, it is neither voiced nor unvoiced; it is merely a state of the glottis (cf. Ladefoged 1971:16). Thus, when the presence of an *r* acted to "raise" the ʔ to an ʕ, there being no potential voiced counterpart to an ʔ³⁶ (as in ʕ Ugaritic had a voiced counterpart to ʕ), the effect was to voice the glottal stop to the nearest voiced phone amongst those in the potential speech inventory: the voiced glottal continuant.³⁷ Thus, in order to become voiced, the phone had to become simultaneously fricativized. Phonetically, [ʔ] was "raised" to [ɣ]. A hypothetically analogous situation would be a system which had the following phones:

	unvoiced	voiced	unvoiced	voiced
Stop	t	d	p	
Continuant	θ	ð	f	v

If in this system conditioning factor *X* operated to voice /θ/ to /ð/, the same conditioning factor *X* might operate to voice /p/ to /v/, there being no potential /b/ in the system. This is what happened in /ʔ/ being voiced phonetically to [ɣ] in Hebrew and Arabic.³⁸ Since there was

r preserves an original ð and blocks the usual change of Proto-Semitic *ð to d (Gordon 1965:26).

³⁶John Colarusso has informed us that: "it is possible to have a voiced [ʔ] that remains a stop, it would be [+closed glottis, -open glottis, +lax glottis, -tense glottis] and appears to occur, (at least phonetically) in Enets Samoyed.... Nevertheless it is exceedingly rare ...[and] voicing of [ʔ] leads almost inevitably to [ɣ] or some glided version of [a]." (Personal correspondence dated 22 January 1980.)

³⁷We suspect that after the "raising" of [ʔ] to [ɣ], we had phonic tenuis plus glottalization (e.g., [xepʔa]) vs. media plus pharyngealization (e.g., [ʔarbʕa]).

³⁸The fact that these words may have [ʕ] in current Arabic does not preclude the likelihood that at the time Hess' Law first operated,

no grapheme for this conditioned allophone in their alphabets, Hebrew and Arabic indicated the voiced glottal fricative by the grapheme <ʕ>, the sign for the voiced pharyngeal fricative. We may recall that Hebrew uses this grapheme to indicate both the pharyngeal and the velar voiced fricatives (as it also uses *n* to indicate both the pharyngeal and velar unvoiced fricatives). That Hess' Law should have operated on *ʔarbʔa* to produce *ʔarbʕa* [*ʔarbħa*] in spite of the fact that the *ḫ* represented here and in */ħeP'a/* (at least in the donor language) a unitary phoneme should not strike us as odd.

Several recent studies (see, e.g., Bomhard this volume and Çolacrusso this volume) have equated Kuryłowicz' *ḫ*₁ with the glottal stop. We accept this interpretation and feel no trepidation in proposing that *ḫ*₁ survived in Hittite as the glottal stop and that such a word as *e-eš-mi* "I am" was pronounced */ʔesmi/*, though there was no special grapheme for the glottal stop.

This necessarily overly short phonological excursus we need to complete with a caveat: We wish to emphasize that theoretical typologically-based perspectives should not be used for etymological reconstruction to create pairs that would not in themselves exist. The comparative process demands the opposite: that we confront the hard facts of texts and the field. The field evidence is what Fourquet (1975) so admirably confronts. We are told by Armenological colleagues that over and beyond Fourquet's piece dealing with the Armenian language *family*, new such studies are coming out with evidence on Armenian "sub-languages" which preserve (!) glottalics. We await their results. Our own textual probing of representations of Hittite phonemes in borrowed names by recipient languages shows another path. Until much more *factual* evidence is in, Hopper's classificatory title (this volume) of *taihun* and *decem* languages is destined, at all events, to live through

what was initially brought about was a phonetic [ħ], which over time coalesced with [ʕ], a standard part of the language's phone inventory.

the ages alongside *centum/satem*. The question we are posing is: Is there evidence that Anatolian was a *t'ekm* (*t'ekan*) tongue?! We, of course, have the further variable of donor and recipient tongue on some of the problems of which we may again refer the reader to Pulgram 1979:691ff.

SYNTHESIS OF I - X

We must take note of two facts here: (1) The reinterpreting of a common word or name, after the full cycle of desuetude > vanishing *sine vestigio* has been completed, by "utilizing" a word that is used synchronically is a well-known phenomenon. Examples can be cited from Jewish and just as well from non-Jewish history. Shortly we will cite a few of each. (2) It is more than a passing curiosity to note that the phenomenon of double (or triple) namings with the two appellations having mutual translatability in their own language and the language not their own (i.e., *goyish*) is a matter that repeats itself over and over again in the long years of the symbioses of the Hebrew-Jewish people with *goyim*. The two or more names are always semantically identical, and while the symbiosis with the particular *goy* is living, the bilingual Jewish speakers are aware of the mutual translatability of the names. Examples of this second phenomenon will generate examples of the reinterpreting (folk etymological) phenomenon too. From the beginning of their adoption of Aramaic as a (secondary) religious language, the Jews have had parallel pairs for the main religious terms:

Hebrew	Aramaic
תורה	אוריתא ("Instruction/Torah")
ישיבה	מתיבתא ("Yeshiva")
משנה ("Mishna")	תנה ("Mishna Expounder").

An extra variable is present in the religio-linguistic symbiosis

that the Jews enjoyed with Hebrew and Aramaic, viz. (as in the examples given) the reciprocal "translations" are derived from a common Semitic root. Yet it is very dubious if this at any time played any role in the consciousness of the bilingual speakers. Without multiplying examples (they could very easily be multiplied without any end), let us settle this matter by posing to ourselves the question in the form of one single concrete example: How many (non-etymologist) speakers of English "know" (whatever meaning we endow this word with) that *fraternal* "brotherly" (adj.) is coradical and cognate with *brother* (noun); how many "fraternity brothers" realize the redundant reiteration of the IE **bhrātēr* in their self-designation? With a very high degree of confidence, we can answer "few indeed". Thus, the fact that the Hebrew and Aramaic synonyms for "Torah" are but two derivations of the Semitic root **wrh* "to instruct", but formed with different preformatives is not only *not* realized, but even leads to explanations which have a life of their own (see below). The two words for "Yeshiva" both derive from the Semitic root **šb* "to sit", but here the *-t-* in the Aramaic is not a different preformative as the *t-* in תורה, but the Aramaic phonetic development from PS **θ* vs. the *-š-* of the Hebrew equivalent. In addition, the recognizability of cognateness is excluded by a preformative *m-* in the Aramaic.³⁹ In the words for "Mishna" there is the same phonetic split, but now it is the Hebrew that has the preformative *m-*. The root is **θānaya* "repeat" < **θnay-* "two".

At a later period, that of Jewish linguistic symbiosis with the people of Germany, a peculiar onomastic tradition developed: that of

³⁹This same Semitic root **wθb* occurs, with yet another phonetic disguise, in our English *marzipan*, where the second radical is represented by <rz>. The explanation seems to be that Standard Italian used the means of the combination <rz> to represent the sound they perceived in Ar. *mawθabān* "seated (king)". The sound was probably quite similar to that described for Hieroglyphic Luwian by Arbeitman and Ayala (this volume): [r].

giving a child a bilingual name of reciprocal translatability. Good examples are *Zeev Wolf* "wolf" in Hebrew, then in German; *Zvi Hirsch* "hart" vel sim. in Hebrew, then in German.⁴⁰

The last example we wish to discuss here, while it becomes popular at this period, needs must derive from the early Talmudic/N. T. period, when Aramaic and Greek were spoken and lived together: *Shraga Faybush* (or *Faybul*) "lamp" in Aramaic, followed by (the Greek pagan *nomen dei*) Φοῦβος "god of light". This appears shocking, but becomes less so if we look at some of the most popular and typically Jewish names today: *Isidore* "Gift of Isis" (see Arbeitman 1981a for details); *Mordechai* "Devoté of Marduk"; *Esther*, shortened form of a theophoric sentence containing Ishtar. We are only shocked because we cannot conceive of a Jew of today naming his son *Jesus* (!).

The Aramaic word for "Torah" אורייתא provides a good jumping off point for our return to the other phenomenon: folk etymology. Not only doesn't your average Talmud scholar/student "know" that this word consists of א /ʔ/ -- preformative followed by the root **wrh* (-w- preserved because it is not initial vs. the synchronic root *yrh*), then fem. -t- (preserved because it is non-final), and last א /ʔ/ of determined state (semantically functionless in Babylonian Talmudic Aramaic), the whole word being an *'aphel* causative verbal noun "instruction" (cf. Heb. מורה "instructor"), but he "knows" (often) that this word derives from אור "light", for "Torah is light" (!). There are simply too many linguistic variables for the non-linguist, yet that the Talmud student seeks meaning for this is a characteristic of the (inquisitive) human mind, a *Drang nach Bedeutung*. So, likewise, the contemporary German speaker supplies the meaning "court of peace" to *Friedhof* "cemetery", for the old verb *frieden* "to gate about, ein-/umzäunen" continues only in compounds "ein-/umfrieden", and seems to be lexically unobservable

⁴⁰This practice was brought to our attention by Shlomo Specher. The earliest case of the practice that comes to mind is that of the apostle Δίδυμος Θωμᾶς ("Twin" first in Greek, then in Hebrew [תאם]).

without its preverbs. Further, "peace-court" is so "appropriate."

In such a context must we view the long attempts to "understand" "Hebrew" (Qiryat) Arba. Once one "knows" that it means "Four," corroboration and causation are readily to be found, by Midrashists, by (modern) scholars. A peerless example is Hommel 1897:232:

...it was from the Khabiri that Hebron (formerly known as Four-town, or Kirjath Arba, Judges i.10) received its later name of Khebron (originally Khabirân, *i.e.* the city of the Khabiri). In the Tel el-Amarna tablets, we find it mentioned by its old name, *i.e.* Rubûti (= Roba'ôt), meaning "the four quarters [of the city]."

In the matter of his first point, from our present perspective, Hommel's etymology for the *ḥabiru* (cf. p.901 and fn.15 above) seems unexceptionable: they were a *league/band* of חברים, *associated for a particular goal*. In the matter of his "elucidation" of the polynym as "Four-town," certainly Gesenius' (1921:212) remark is the sober path: "Kaum *Rubûte* in Amarna, vgl. zu רבה II [große Stadt]." Gesenius' explication of the Amarna transcription ironically sheds light on Ug. *ḥbr rbt* (p.953 above).

* * * *

The continuation of this article will appear in *Scripta Mediterranea*, *Bulletin de la Société d'Études Méditerranéennes* (Robarts Library, 14087, University of Toronto) and will consist of the following sections:

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| XI Other Bilingual Cities. | XV מכפלה. |
| XII Other Ethnics | XVI עפרון. |
| XIII The <i>aR-</i> > <i>al-</i> and, before that, the <i>aN-</i> > <i>al-</i> Syndrome. | XVII The LXX. |
| | XVIII Lipiński and Kempinski: A Critique. |
| XIV Civilizational and Ethical Implicata of the "Other." | XIX Semitic <i>'ar-</i> |

We have been compelled to delete, from the present paper, subsection IXcδ, alluded to on p.965.

* * * *

Alex, amice mi
accipe cum fletu maximi
paruum donum amici.
Salve aeternum mihi
aeternumque uale.
Iīm īgrk īālmk.

ישראל, חברך. יג באייר תשמ"א.

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POSTSCRIPTUM

Spatial realities forced the excising of the discussions promised on pp. 905 and 982. The study mentioned in §1 of p.998 will appear in Arbeitman Forth. e. Re p.939, the Midianite priest is blessed with a 3rd *sogenannt* "name": חבב /ḥḇḇāb/, which is of one cloth with HL mītas and the Abrahamic אהב (רחים); cf. pp.989-90 and 1000-01. Re fn.24, we may summarize a long discussion by two proportions:

mindis : (קדישא) חברא = *moitos : חבר Soc.¹ : Soc.² = Ind.¹ : Ind.².

mindis : *moitos = חברא (קדישא) חבר. Soc.¹ : Ind.¹ = Soc.² : Ind.².

The promise of God's benignity-covenant with Abraham was את-הארץ לתת לך אהבה, and with Moses ארץ טובה ורחבה אל-ארץ הזאת לרשתה: (Gen 15:7 & Ex 3:8). ... להעלתו זבת חלב ודבש אל-מקום הכנעני והחתי והאמרי.
The coincidence with the applications of the Anatolian "covenant" roots, miy- and was- (p.970: LĀL ... ma-li-id-du || YĀ.NUN mi-ū; pp.981-82: YĀ ... LĀL ... < wassāri; in both loci "cream/oil is benign"; in the former "honey is sweet," while in the latter it is part of the "benign" merism), when added to the Land being referred to as "The Place of the Canaanite, the Hittite, and the Amorite" leaves little to be desired.

* * * * *

Tu duca, tu signore, et tu maestro.

צר-לי עליך אבי אלכסנדר נעמח לי מאד נפלאתה אהבתך לי מאהבת נשים:
'Αγαθοῖ ἀνθρώποι οὐδὲ τεθνᾶσι θανόντες.

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